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Attitudes Toward Suicide, Mental Health, and Help-Seeking Behavior Among African
Immigrants: An Ecological Perspective

A dissertation
presented to
the faculty of the Department of Psychology
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Doctor of Philosophy in Psychology

by
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August 2014

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Seeking Behavior, Mental Health

ABSTRACT

Attitudes Toward Suicide, Mental Health, and Help-Seeking Behavior Among African Immigrants: An Ecological Perspective

by

Sheri A. Nsamenang

The population of Africans in the United States is growing, yet little is known about the impact of migration on the attitudes of African immigrants toward suicide, mental health, and help-seeking behavior. Migration entails movement from one cultural environment to another, and the process requires adaptation to the host country. According to Ecological Theory, interactions between the societal structures, values, and beliefs of the host country, cultural values from the country of origin, and individual-level characteristics may affect mental health-related attitudes and behaviors. As such, the current study used mixed methods, administered via online survey, to investigate socio-cultural predictors of attitudes toward suicide, mental health, and treatment seeking among African immigrants in the United States. In the current study the responses of 227 participants were used for qualitative analyses, and responses from 168 participants were used for quantitative analyses. Qualitative results indicated overall negative attitudes towards suicide and positive attitudes towards suicide prevention. Perceived culture-specific causes of suicide included acculturation difficulties, immigration stress, social causes such as home sickness discrimination, and racism, financial causes such as responsibility to kin in Africa, spiritual causes, and deportation risk. Results from quantitative analyses indicated that identification with African values and behaviors were related to lower levels of anxiety, depression, stress, and culture oriented psychological distress. Higher levels of spirituality and religiousness were

associated with a negative attitude toward suicide. Implications for population based suicide prevention efforts for African immigrants and for mental health professionals working with African immigrants are discussed.

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CHAPTER 1

INTRODUCTION

Worldwide suicide is a significant public health problem and cause of death and is among the top five causes of death for young adults (Bertolote et al., 2005). According to the World Health Organization (WHO; 2003) an estimated 1 million people die by suicide annually; this equates to a rate of 14.5 per 100,000 individuals, with two deaths every minute (Beautrais & Mishara, 2008). In the United States it has been estimated that the annual financial impact of suicide on the economy is \$111 billion (Miller, Covington, & Jensen, 1999).

Within a single country suicide rates may differ – across age, sex, and cultural groups (Yang & Lester, 2004). One segment of the population that may be at particular risk for poor mental health and the presence of suicidal behavior are foreign-born immigrants, who are often under-researched and under-treated (Borges, Breslau, & Su, 2009; Cho & Haslam, 2010). The term “immigrant” refers to individuals who have migrated from their home country into the United States, “has been granted the privilege to be a permanent resident” (Potocky-Tripodi, 2002, p. 5), whereas the term “non-immigrant foreign national” refers to individuals who have been permitted temporary entry into the United States (Monger & Mathews, 2011). For immigrants and non-immigrants, it is important to understand the potential impact of migration and acculturation on mental health status, attitudes toward suicide and suicidal behavior, and help-seeking behavior. Further, premigration stressors such as exposure to trauma, economic hardship, occupational status in country of origin, loss of extended family, and political involment; migration stressors such as uncertainty about migration outcome and exposure to violence; and, postmigration stressors such as discrimination, prejudice, problems with access to resources, difficulty transitioning into another culture, and potential sex role conflicts (Kirmayer

et al., 2011; Pumariega, Rothe, & Pumariega, 2005) must also be considered. Such information is crucial to the development of culturally sensitive prevention and intervention strategies (Jafari, Baharlou, & Mathias, 2010).

The current study is focused on African-born individuals who have travelled from their home country to reside in the United States (Potocky-Tripodi, 2002), for school, work, or as a visitor; intent to settle in the United States or return to one's home country is not considered. African foreign-born individuals make up a small but rapidly growing immigrant population in the United States, about 4%, and have doubled in size from 881,300 individuals in 2000 to 1.6 million individuals in 2010 (Immigration Policy Center; IPC, 2012). Despite the growing number of African immigrants, their attitudes toward mental health and their behavioral health needs remain poorly understood (Venters et al., 2011). In general, African immigrants "have been largely excluded from research on issues confronting immigrants" (Hugo, 1997, p. 154).

In this study I employ an ecological framework and both quantitative and qualitative survey and analytic techniques to examine the degree to which the phenomena associated with immigration may affect attitudes toward suicide and the mental health of African immigrants, including treatment-seeking. Such investigation is important because the cognitive-emotional attitudes and perceptions that an individual has toward mental illness and suicide, either condemning or accepting, are associated with differences in rates of suicidal behavior and the success of suicide prevention efforts (Kodaka, Poštuvan, Inagaki, & Yamada, 2011; Renberg, Hjelmeland, & Kuposov, 2008). As such, findings from this study may have implications for the psychological well-being of African immigrants including raising awareness of mental illness experienced by African immigrants and reducing the stigma surrounding mental health and its treatment in this cultural group; identifying potential protective factors; informing suicide

intervention and prevention efforts; and contributing to the development of health policies beneficial to immigrants to the United States.

African Immigrants: An Under-Researched and Under-Treated Population

Relevance of Population

The President's New Freedom Commission on Mental Health (2003) highlighted the importance of improving culturally competent mental health services provided to racial and ethnic minorities. This report, and a growing body of scientific literature, acknowledges that the burden of mental illness is not experienced evenly across populations (Christie-Smith & Gartner, 2005). Of note, clinicians and researchers know less about the mental health needs and service use of African immigrants, as the majority of research in these areas has focused on Asian, Latino, and Native American groups (Chaumba, 2011; Venters et al., 2011). African immigrants, however, like many other ethnic minority groups, are less likely to receive services for mental health care and receive poorer quality of services than White counterparts (Karlin, Duffy, & Gleaves, 2008).

Attitudes of immigrants toward mental health may differ depending on country of origin, and level of acculturation after immigration (Calliess, Machleidt, Ziegenbein, & Haltenhof, 2007; Erdal, Singh, & Tardif, 2011; Whitley, 2006). African immigrants are a socially and culturally diverse group, and little is known about their beliefs about suicide (Eshun, 2006), manifestation of mental health symptoms (Venters & Gany, 2011), and help-seeking behavior (Ting, 2010). Yet, as with other cultural minority groups, the presence of uninformed or culturally-biased attitudes toward mental health may contribute to maladaptive coping strategies such as emotional inexpressiveness or substance abuse, increased psychopathology, and a reluctance to seek mental health services (Möller-Leimkühler, 2003; Renberg et al., 2008).

Further, a bidirectional relationship between poor mental health literacy and inaccurate perceptions about mental health may contribute to decreased understanding, access, and use of mental health services (Kageyama, 2012). Finally, encouragement of accurate, nonromanticized, and nonpunitive attitudes toward suicide is a crucial element in curtailing suicide (Stack & Kposowa, 2008); yet, attitudes toward suicide are generally unknown among African immigrants.

Epidemiology of African Immigrants in the United States

In past centuries the migration of Africans to the United States was driven by the slave trade and the effect of European colonization. The earliest recorded passage of slaves from Africa occurred in 1519 to a current US territory – Puerto Rico (Capps, McCabe, & Fix, 2011). Between the years 1519 and 1867 about 10 million Africans were forced to leave their homes for the Western Hemisphere; not accounting for those lost at sea, an estimated 360,000 Africans arrived in what is now known as the United States. Based on the 2010 census, African Americans comprise 12.6% of the United States population (Capps et al., 2011), although not all of these individuals were foreign-born. African American refers to Blacks born in the United States, African foreign-born refers to Blacks born anywhere outside of the United States, and African-born refers to Blacks born in Africa (Kent, 2007). The resurgence of African foreign-born immigrants into the United States occurred about 150 years after the slave trade was declared illegal in 1808 (Kent, 2007).

Africans continue to migrate to the United States and worldwide but under different social conditions. Current official statistics for the year 2011 suggests that about 30 million African-born individuals (3% of the African population) have migrated internationally (Ratha, Mohapatra, Plaza, Shaw, & Shimeles, 2011); male Africans have a higher rate of immigration

(845,237 in 2010) than African females (761,677). Africans migrate to countries both within and outside of the continent of Africa. Over the last decade the African foreign-born population of the United States has increased in size by 725,614 individuals (Immigration Policy Center; IPC, 2012) and, according to the World Bank, the United States is a top destination for Africans, ranking in the fifth position after France, Cote D'Ivoire, South Africa, and Saudi Arabia (Ratha et al., 2011). In 2010 the majority of Africans who immigrated into the United States were from Western Africa and Eastern Africa, and the largest African immigrant groups in the United States are from Nigeria, Ethiopia, Egypt, Ghana, and Kenya, which are Anglophone, or English-speaking, countries (Immigration Policy Center, 2012). The top five states in the United States with the most African immigrants are Texas, Virginia, Maryland, California, and New York (IPC, 2012). Finally, similar to the diversity in country of origin of African immigrants is the diversity in ethnicity; unlike the Black or White dichotomy of race that is common in the United States¹, Africans come from vastly diverse ethnic classifications, with an average of 53 ethnic groups per nation in Africa (Aluko, 2003).

African immigrants migrate to the United States for diverse reasons, such as escape from political conditions and social unrest in home countries, family reunion, interest in higher education, economic stability, and adventure (Kent, 2007; Ndubike, 2002). Unauthorized African immigrants in the U.S., either from illegal entry or overstayed valid visa, comprise a relatively low number (200,000) as compared to the overall number of unauthorized immigrants from any race or ethnicity (11 million; Capps et al., 2011). Data on the legal status of African immigrants in the United States from 2006 to 2008 indicate that 25% of African immigrants were refugees (fleeing persecution or fear of persecution), 26% were legal permanent residents

¹ A discussion of race and ethnicity is available in this article: Grammond, S. (2008). Disentangling "Race" and Indigenous Status: The Role of Ethnicity. *Queen's Law Journal*, 33(2), 487-517.

(family reunification, employment, or diversity lottery), 26% were naturalized United States citizens, and 2% were legal temporary residents as students or temporary workers (Capps et al., 2011). An even smaller group of Africans enter the United States as temporary immigrants as a result of political conflicts and natural disasters in their country of origin; for example, in 2011 about 4,000 Liberian, Somalis, and Sudanese individuals entered the United States under temporary legal status (i.e., Temporary Protected Status and Deferred Enforced Departure) (Wasem & Ester, 2011). Unlike individuals with a refugee or asylum status, individuals with a Temporary Protected Status or Deferred Enforced Departure status are not eligible to become permanent residents and do not qualify for public benefit programs (McCabe, 2012). Of note, African immigrants are among the “best-educated” United States immigrants (Capps et al., 2011, p. 12), perhaps explained by entrance into the United States via the diversity lottery, which requires that immigrants have at least 2 years of experience in an occupation or a high school degree. About 37% of African immigrants in the U.S., as opposed to 15% of immigrants from other nations, are skilled migrants (Ratha et al., 2011). In 2010 two fifths of African immigrants in the United States had attained a bachelor’s degree or higher education level, and greater than one third held professional jobs (IPC, 2012).

With fewer African immigrants classified as “illegal” or unauthorized, and with their greater levels of education compared to many other migrant groups, African immigrants are viewed as a “model minority,” like Asian Americans (Page, 2012). Despite such strengths, African immigrants, like many other migrant groups, experience disproportionate mental health difficulties. For example, in a study by Venters and colleagues (2010), health screenings conducted in a sample of 87 African immigrants indicated that mental illness was among the top two medical problems described; however, referral for mental health services was rare.

Ecological Theory: A Conceptual Framework to Understand Immigrant Mental Health

Ecological models recognize influences from family, friends, work, neighborhood, and communities on an individual's behavior and attitudes including mental health (Bronfenbrenner, 1986). An individual's environment, interpersonal relationships, and culture may affect attitudes toward mental health and suicide and, in turn, the type of coping strategies used. Further, inaccurate perceptions regarding psychopathology and suicide may contribute to poor mental health literacy and, perhaps, decrease the likelihood for individuals to understand, access, and use mental health information (Kageyama, 2012). Yet, very few studies have attempted to discern a multilevel model of mental health, suicidal attitudes, and behaviors among African immigrants (Stack & Kposowa, 2008).

In his seminal work Bronfenbrenner (1977) encouraged the importance of considering the development of persons in the context of the nested environments in which they live; as such, the Ecological Theory may be a good conceptual framework for understanding the influence of socio-cultural factors on mental health of African immigrants. Bronfenbrenner (1977, 1979) asserted that an individual's thinking and behavior can be shaped by his or her interaction with four systems: microsystem, or the immediate environment; mesosystem, or social systems; exosystem, or one's informal or formal social structures such as neighborhood or government; and, macrosystem, or cultural values. Of benefit, the Ecological Theory is compatible with other established theories often applied to the study of the complexities of mental health and suicidal behavior (Renberg et al., 2008) including social learning theory, acculturation theory, and ethnic identity theory.

As an example, as Africans become part of the mainstream United States society, it is important to understand how adaptation to a new socio-cultural environment, or the acculturative

process, can impact their mental health belief systems, psychological well-being, and help seeking behavior. Acculturation refers to the “extent to which individuals have maintained their culture of origin or adapt to the larger society” (Phinney, 1996, p. 921), a process that may be stressful for some immigrants. In addition, the recognition and maintenance of racial or ethnic identity is also an important developmental process for immigrants. African immigrants to the United States, like immigrants from other countries, are pressured to construct new social and personal identities (Guenther, Pendaz, & Makene, 2011). The acculturative process, or integration into a new society, engenders the need to redefine ones identity in the host country. Thus, life in the United States, as an immigrant, involves such cultural and institutional factors in addition to: individual-level characteristics such as age, sex, and psychological functioning; interpersonal characteristics such as social and familial relationships; and, exposure to stimuli from the host-country culture, including media as well as values and beliefs (Figure 1).

Individual-Level Risk and Protective Factors

Demographic characteristics such as age, race or ethnicity, sex, and education level may affect attitudes toward suicide, mental health, and help seeking behavior although no study has examined these associations among African immigrants (Kaneko & Motohashi, 2007; Lee, Tsang, Li, Phillips, & Kleinman, 2007; Marks, 1989; Segal, Mincic, Coolidge, & O'Riley, 2004; Stack, 1998; Xu, Ma, & Xiao, 2007). With respect to age, Segal and colleagues (2004) found differences in attitudes toward suicide between younger adults (mean age = 20.6 years old) and older adults (mean age = 75.5). Older adults were significantly more likely than younger adults to report the following adaptive and potentially life-saving attitudes: suicide as reflecting an absence of religious faith; moral objections to suicide; and, suicide as irreversible (death as a consequence to suicide attempts). Older adults were also significantly more likely than younger

adults to report maladaptive attitudes such as suicidal behaviors are: normal in some situations; not associated with depression or loneliness; not a cry for help; and, that a suicide attempter cannot be dissuaded. In another study, older adults were more likely to believe that suicide occurs among individuals with a weak mind, and that suicide is unpreventable, and these differences were suggested to reflect a cohort effect (Kageyama, 2012). Such beliefs about the normality and inevitability of suicide may preclude engagement in help-seeking behavior (Segal et al., 2004); thus, consideration of the age of immigrants may contribute to a better understanding of their attitudes toward mental health.

A study by Lam, Yip, and Gee (2012) among Asian Americans found a negative association between age, and age of migration, on mental health. Individuals older in age and individuals who entered the United States at an older age were more likely to report poorer subjective ratings of general mental health. Results from a national study of diverse immigrants suggest that middle-aged (35 years old and above) immigrants in the United States experience greater emotional distress than age-comparable United States born individuals (Angel, Buckley, & Sakamoto, 2001). Further, in this same study no significant differences in emotional distress were observed between childhood immigrants and United States-born individuals; therefore, perhaps, adaptation to the stressors of immigration may be more difficult for older immigrants.

Sex differences have also been found for attitudes toward suicide (Xu et al., 2007), although results are mixed (Stack, 1998); in general, males tend to be more approving of suicide. Multivariate research based on individuals from 31 nations suggests that males are more likely to have approving attitudes toward suicide than females (Stack & Kposowa, 2008). Lee and colleagues (2007) found that males reported less negative assessment of suicide (e.g., “suicide is a totally irresponsible act;” p. 569), but indicated less sympathy for suicidal individuals.

Kageyama (2012) found that males were more likely than females to be pessimistic toward life, and to report inappropriate perceptions that suicide is a self-choice; is inevitable and unpreventable; is permissible under particular situations; is a result of stressors; and, that individuals who die by suicide have a weak mind. With regard to help seeking behavior, a study of 15,222 participants with similar general health scores revealed that females were more likely than males to seek help from a physician, a friend or relative, and any other person (Oliver, Pearson, Coe, & Gunnell, 2005). In one of the few studies of its kind, an investigation of Ethiopian immigrants in Canada found that females were more likely than males to seek nonmedical services for emotional and mental health problems (Fenta, Hyman, & Noh, 2006). Importantly, among Africans, sex-based differences have been identified in rates of suicide (with higher rates of suicidal behavior among males than females) (Adinkrah, 2011; Mgaya, Kazaura, Outwater, & Kinabo, 2008), depression and anxiety disorder (Pillay & Sargent, 2003); therefore, an examination of attitudes towards mental health and treatment-seeking across sex groups of African immigrants may provide insight into potential suicide risk and prevention, and promotion of mental well-being.

In a study by Stack (1998) assessing 13,337 individuals from 15 nations, education predicted acceptability of suicide; individuals with greater levels of education were less likely to believe that suicide was acceptable. Similarly, low levels of education have been associated with greater perception that suicide is inevitable (Kaneko & Motohashi, 2007), potentially placing individuals with lower education at greater risk for suicidal behavior. In a study among Chinese respondents living in Hong Kong, individuals with lower levels of education were less likely to report fatalistic attitudes toward suicide, such as that “suicide cannot be prevented,” but were also less likely to report negative attitudes toward suicide, such as “suicide is a totally

irresponsible act” (Lee et al., 2007, p 569). Although no studies were identified examining differences in Africans’ attitudes toward suicide across educational levels, in a study consisting of 10,203 Ethiopians, an inverse relationship was observed between educational attainment and suicidal ideation (Kebede & Alem, 1999); participants with greater than a secondary school education reported the least suicidal ideation. Risk for suicide has also been reported to be higher among less educated South Africans (Joe, Stein, Seedat, Herman, & Williams, 2008). Although, as previously mentioned, African immigrants often have higher levels of education than non-African immigrants, differences in attitudes toward suicide based on education level may still exist among African immigrants. Furthermore, with regard to help-seeking behavior, a study among Greeks indicated that level of education is associated with help seeking behavior, such that greater education is associated with more positive perceptions about help-seeking, and that the duration for an untreated mental health disorder is shorter among individuals with greater education (Madianos, Zartaloudi, Alevizopoulos, & Katostaras, 2011).

Individual-level characteristics also encompass mental health functioning, including mental illness and history of suicidal behavior, as well as protective characteristics, such as spirituality; yet, the potential inter-relationships between these and other variables are unknown for African immigrants. Worldwide the presence of a mental disorder has been associated with increased risk for suicide (Borges et al., 2010), and studies on Africans in Ethiopia, Nigeria, South Africa, and Uganda confirm that poor mental health increases risk for suicide (Fekadu et al., 2008; Gureje et al., 2007; Khasakhala et al., 2011; Kinyanda, Kizza, Levin, Ndyabangi, & Abbo, 2011). However, very few studies have examined the linkage between mental health functioning and attitudes toward suicidal behavior; for instance, the presence of depression, anxiety, or substance abuse may increase tolerable views of suicide or the contemplation of

suicide as a coping mechanism (Ajidahun, 2012; Mofidi, Araste, Jacobsson, & Richter, 2008;). Moreover, many people with mental health disorders underuse mental health services (Sanchez & Gaw, 2007). This may be because mental health difficulties promote negative attitudes toward mental health services, whereby individuals come to believe that no one can help them (Zartaloudi & Madianos, 2010).

Similarly, and with more well-established research support, previous suicidal behavior is associated with greater likelihood of approval of suicide (Kocmur & Dernovsek, 2003; Richardson-Vejlgaard, Sher, Oquendo, Lizardi, & Stanley, 2009). In a study by Hjelmeland and colleagues (2008) examining attitudes toward suicide among Ghanaians and Ugandans, Ghanaians with a past history of suicide attempt were more likely to express tolerable attitudes toward suicide, such as: “people should have a right to take their own life” (p. 26). Additionally, Ugandans reporting life-weariness were more likely to report suicide ideation and tolerable attitudes toward suicide. Conversely, in a study of college undergraduates, Eshun (2003) found that, in Ghanaians and Americans, negative attitudes toward suicide were related to lower levels of suicidal ideation, suggesting a potential bidirectional relationship between suicidal attitudes and behavior. Unfortunately, epidemiological studies suggest that suicidal individuals generally do not seek professional mental health treatment (Micheltmore & Hindley, 2012). In a United States population-based study, individuals who attempted suicide were more likely to seek help from friends or family than they were to seek help from professionals (Barnes, Ikeda, & Kresnow, 2001).

Finally, some buffers against suicide exist at the individual-level and may consist of socio-cultural characteristics such as religiousness and spirituality. Religiousness and spirituality can coexist but are unique constructs. Religiousness refers to a search for the sacred

in a formal institution and consists of participation in organized religion, personal religious practices, altruistic acts, and degree of support that is derived from formal religion, whereas spirituality consists of a search for personal or existential meaning, feeling close to a higher power, sense of interconnectedness with the world, and spiritual practices such as meditation or yoga (Hill et al., 2000).

Religious ideologies may affect suicide rates via inculcation of attitudes toward suicide that contribute risk or protection toward suicide mortality (Jukkala & Mäkinen, 2011). Such patterns are often evident across societies with predominant religious beliefs that disapprove of suicidal behavior; for instance, reported suicides are lowest in Islamic countries in Eastern Mediterranean Europe (e.g., Turkey), and in Catholic countries in Asia (e.g., the Philippines), Latin America (e.g., Colombia, Paraguay), and Africa (e.g. Sao Tome and Principe) (Beautrais & Mishara, 2008; Eskin, 2004; Rezaeian, 2011; Värnik, 2012).

In general intolerable attitudes toward suicide are more common among religious individuals than less religious individuals (Koenig, McCullough, & Larson, 2001). Factors associated with religious commitment - such as belief in an after-life, sense of purpose in suffering, and belief in a responsive God - have been suggested to protect against suicide (Stack, 1992). Individuals with high religious commitment tend to regard suicidal behavior as unacceptable (Colucci & Martin, 2008), although such beliefs may differ cross-culturally and nationally. In a qualitative study among Ghanaians, perceptions about suicidal behavior were associated with the religious belief that suicidal behavior was offensive to God and was condemned as sinful (Osafo, Hjelmeland, Akotia, & Knizek, 2011). A similar relationship appears to exist between spirituality and attitudes toward suicide. For example, Colucci (2008) conducted a study of Italian, Indian, and Australian students (Colucci & Martin, 2008), finding

that for spiritual Italians, suicide was perceived as less acceptable and more preventable; spiritual Australian students also reported that suicide was unacceptable and endorsed negative attitudes toward suicide. Although no studies were identified examining the relationship between spirituality and attitudes toward suicide among African immigrants, a study using data from 52 African immigrants in the United States found spiritual well-being to be associated with greater hardiness, coping resources, and self-esteem which are, themselves, related to reduced risk of suicidal behaviors (Kamya, 1997). Furthermore, greater levels of religiousness are associated with a preference for religious help-seeking (Crosby & Bossley, 2012) and, in a study among Vietnamese Americans, lower levels of spiritual beliefs were associated with more positive attitudes toward seeking help (Luu, Leung, & Nash, 2009).

Microsystem

The microsystem refers to the interaction between individual-level characteristics, such as those mentioned previously, and the immediate environment, such as peers and home (Bronfenbrenner, 1977), including relationships and roles. For immigrants adjusting to a new set of environments, and the consequent changes in roles and relationships, may have a great influence on attitudes toward suicide. Of particular importance to many individuals from non-Western cultural groups are the connections experienced between self and social networks, which may be strained due to immigration-related issues such as separation from peer, family and routine support systems. Particularly given the well-established relationship between social well-being and suicidal behavior (Joiner, 2005; Joiner, Van Orden, Witte, & Rudd, 2009), this is an important aspect to be studied in African immigrants. Previous research suggests that Africans adhere to an interdependent self-construal, whereby they value social harmony, belonging, and “fitting in;” such values may affect motivation, cognition, and emotion (Cheng et

al., 2011; Markus & Kitayama, 1991) and, as such, the relationships and roles of Africans and African immigrants may have an impact on suicide attitudes, mental health, and help seeking behavior.

Peer relationships offer emotional support and, so, when peer interactions suffer or if a valued peer member attempts suicide, an individual's attitudes toward suicide, as well as suicidal behaviors, may be deleteriously affected. Although the presence of healthy and supportive peer relationships are associated with reduced suicide risk (Alexander, Haugland, Ashenden, Knight, & Brown, 2009; Peltzer, 2008), being overly-connected with peers may contribute to risk for suicidal behaviors (Kaminski et al., 2010); what appears to matter most is the quality of the peer support, and the offer of adaptive versus maladaptive advice. In an interview-based study of South Africans, Shilubane and colleagues (2012) found that peer suicide attempt was associated with personal suicide attempt, supporting social learning theory (Stack & Kposowa, 2008) and emphasizing the importance of examining the history of social relationships in the investigation of suicide and mental health (De Leo & Heller, 2008).

There may also be an association between familial suicide and personal attitude toward suicide; in general, a family history of suicidal behavior increases risk for personal suicidal behavior independent of psychopathology (Qin, Agerbo, & Mortensen, 2002). This association has been supported in a sample of South Africans (Shilubane et al., 2012). Among secondary students in South Africa experiencing the death of a family member by suicide predicted positive attitudes toward suicide (Peltzer, Cherian, & Cherian, 1998) but, in another study, the perception that suicide can be prevented has been retrospectively associated with the suicidal death of a family member (Hjelmeland et al., 2008). However, there is inconsistent support for the effect of familial suicide on attitudes toward suicide; for instance, Zhang and Jia (2009) failed to find

differences in suicide attitudes between family members who were survivors of suicide and nonsuicide survivor family members.

Roles that facilitate attachment, commitment, and social responsibility such as being married or being a student or employee may be associated with attitudes toward suicide and mental health status (Stack & Kposowa, 2008). For instance, disapproving attitudes toward suicide among African Americans are related to being married (Stack & Wasserman, 1995). Among individuals from 15 nations (France, Britain, Germany, Italy, Netherlands, Denmark, Belgium, Spain, Ireland, Northern Ireland, Australia, Norway, Sweden, United States, and Iceland), married males and females reported less approval for suicidal behavior (Stack, 1998), than nonmarried individuals. Other studies have found sex differences for the effect of relationship status on suicide risk and mental health status. As examples, suicide risk is higher for divorced or separated, widowed, or single men than women (Denney, Rogers, Krueger, & Wadsworth, 2009) and, in a sample of South Africans being married was associated with greater psychological well-being (Khumalo, Temane, & Wissing, 2012). With regard to other roles, such as employment, unemployed individuals have been found to be at greater risk for suicide (Solano et al., 2012). In a qualitative study finding suitable employment has been identified as a stressor among diverse immigrants (from Cambodia, Eastern Europe, Iran, Iraq, Africa, and Vietnam) (Saechao et al., 2012); however, the associations between relationship status, employment status, attitudes toward suicide, and mental health have not been studied among African immigrants.

Mesosystem

The mesosystem is comprised of interrelationships between micro-systems and, according to Bronfenbrenner (1977), is a system of microsystems; such a conceptualization acknowledges that influencing elements do not occur in isolation, and that the associations

between potential risk and protective factors across levels and domains should be examined. For African immigrants their aforementioned associations to family, work, and school may also be affected by mesosystem factors such as perceived social support and social class in the prediction of mental health and suicidal behavior.

Change in personal ties and the reconstruction of social networks, including potential abandonment and re-establishment of social support relationships, is a major component of the migration transition (Rogler, 1994). Such disruption to interpersonal functioning is a well-established risk factor for suicidal behavior (Chandrasena, Beddage, & Fernando, 1991; Kposowa, McElvain, & Breault, 2008); conversely, the presence of social support is a potential protective factor against suicidal behavior (Hirsch & Barton, 2011). For example, inadequate social support among South Africans is associated with increased risk for suicide attempt (Shilubane et al., 2012), whereas a study on Arab families found perceived social support to lower risk for suicide (Hamdan et al., 2012). Social support may also have an effect on attitudes toward suicide; when present, social support may serve as a coping resource, thereby decreasing thoughts about the acceptability of suicide. Interaction with a supportive network may promote development of healthy coping strategies (Chan, 2011), decrease consideration of less effective coping strategies (Barak, 2007), and promote a sense of emotional safety (Hershenberg et al., 2011). When interpersonal relationships are deficient or maladaptive, individuals may be more likely to endorse the acceptability of suicide, perhaps due to weak attachments and commitments to others (Stack & Kposowa, 2008). Without others to rely on for support, suicide may be viewed as a viable resolution of distress (Joiner, 2005). Although somewhat counterintuitive, the presence of social support may decrease formal help-seeking behavior; for example, among individuals who engage in nonsuicidal self-injury, greater levels of social support are associated

with seeking informal help, and a more extensive social network is related to decreased medical contact (Wu, Stewart, Huang, Prince, & Liu, 2011).

In addition to social relationships, social or class status may also affect attitudes toward suicide and suicidal behaviors. A fundamental transition experienced by immigrants is the movement from one socioeconomic system to another, and belonging to the lowest level of a stratification system may increase social stress (Rogler, 1994), which may contribute to suicide risk. Social class is the subjective perception of one's social position in comparison to others in the society with respect to educational achievement, income, and occupation (Adler, Epel, Castellazzo, & Ickovics, 2000). Individuals in a low social class may be more likely to experience problems such as exposure to crime, violence, crowding, and debt, or economic problems such as unemployment (Kim et al., 2006; Kposowa, 2001), which may increase risk for suicide and mental health difficulties and interfere with help seeking behavior.

For example, in a study that examined the relation between suicide rates, suicide risk, and four different social classes among Korean adults, social class (defined by occupation and education) influenced gender differences in suicide rates; higher rates of suicide were found for both men and women in the lowest social class (Kim et al., 2006). Similarly, an association between low social class and increased suicide risk has been found among individuals in Finland (Mäki & Martikainen, 2009). Although the relation between social class and death by suicide has not been studied among African immigrants, a forensic analysis of 707 cases of suicidal and undetermined deaths in Sweden revealed that low social class was associated with suicidal death among Finnish immigrants (Ferrada-Noli, Åsberg, Ormstad, & Nordström, 1995). However, in a sample consisting of 40,873 individuals from 31 nations, higher social class was associated with greater approval of suicide (Stack & Kposowa, 2008), compared to lower-class individuals; class

groups included upper class, upper middle class, lower middle class, working class, and lower class. In a sample of Asian immigrants to the United States, low subjective ratings of social class were related to poorer self-reported mental health status (Gong, Xu, & Takeuchi, 2012). Also, low health care use has been observed among migrants in Germany reporting a low social class (Keller & Baune, 2005), suggesting that financial difficulties are a likely barrier to seeking health care for immigrants. Of note, subjective social status is often a better predictor of psychological functioning than objective social status (a composite of education, income, and occupation) (Adler, Epel, Castellazzo, & Ickovics, 2000).

Exosystem

The exosystem is conceptualized as the set of interactions between individuals and larger social structures. Although individuals do not play a direct role at the exosystem level, and social structures do not directly affect individuals, these overarching social structures impinge upon intra-personal development, including personality and psychological functioning, as well as an individual's microsystem and mesosystem (Bronfenbrenner, 1977). The social structures at the exosystem level can be formal and include major institutions in a society such as government agencies and mass media (television, internet, radio, press, film or video, and short message service), or it can be informal, including larger, more-global networks such as parental networks, parents of a child's friends, or a network of coworkers.

For immigrants the media may be the most pervasive, potential influence on attitudes toward mental health and suicide. Publicized stories about suicide may affect societal expression of suicidal behaviors and attitudes toward suicide. In fact, it is posited that through this phenomenon – referred to as the Werther effect - exposure to suicide by fictional or nonfictional

characters may increase suicidal behaviors and death by suicide in the general population (Phillips, 1974).

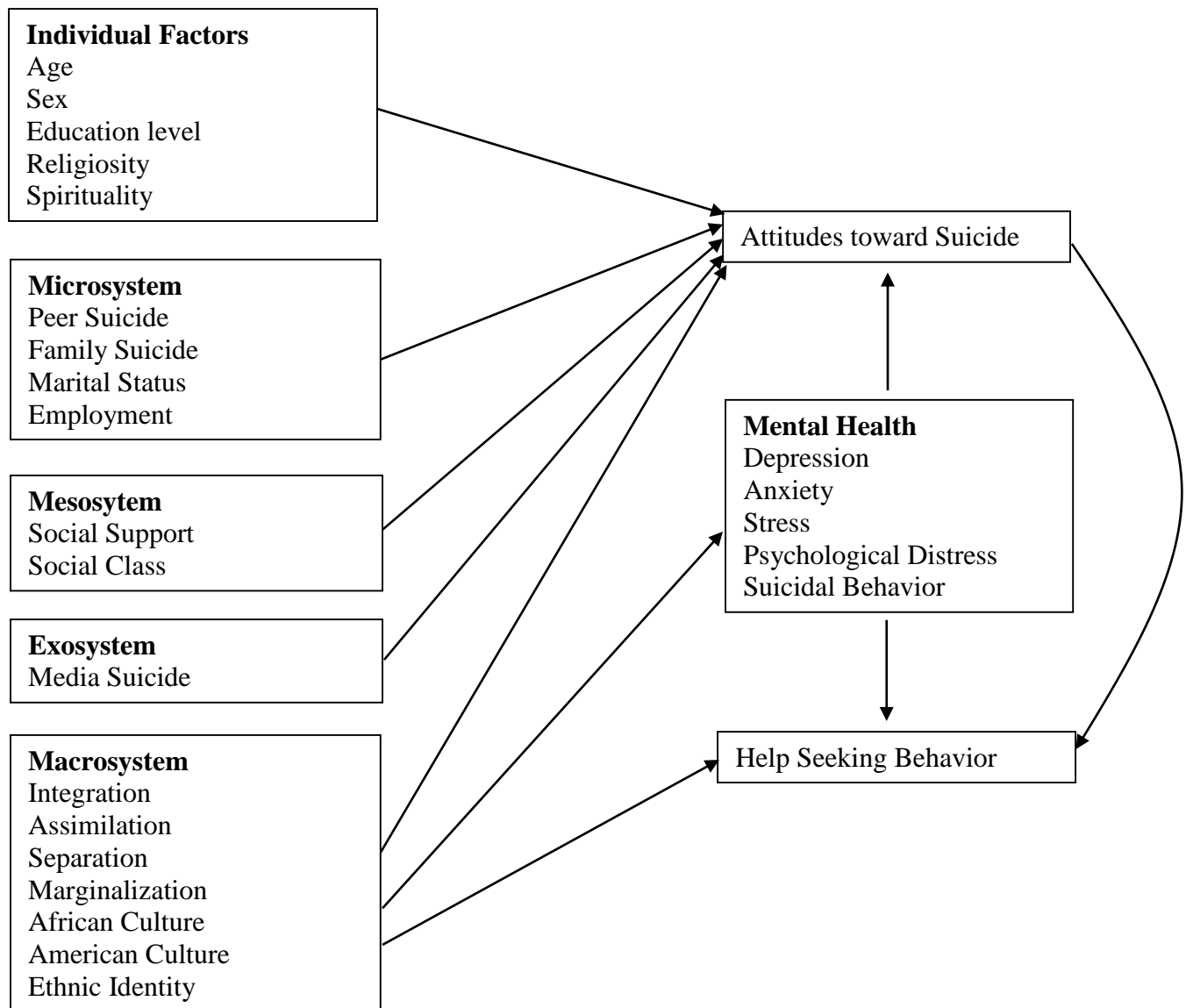


Figure 1. Illustration of Ecological Model

Further, media depictions of suicide may provide insight regarding national attitudes toward suicide. An analysis of media reports of 2,203 suicides in six countries (Hungary, Japan, United States, Germany, Austria, and Finland) found national differences in the depiction of suicide by the media (Fekete et al., 2001). Media reports of suicide in the United States, Finland,

and Germany were more likely to depict the negative consequences of suicide and characterize suicidal behavior by criminality and mental illness, whereas the Hungarian and Japanese media were more likely to depict suicide in a positive and heroizing manner.

The manner in which suicide is reported plays a large role in the potential influence a media report has. In an analysis of published reports of suicide in Austria, associations were found between greater suicide rates and repetitive suicide reporting, reporting of suicide myths, and reporting of epidemiological facts about suicide (Niederkrötenhaler et al., 2010). On the other hand, lower rates of suicide occurred when media reports of suicidal ideation were not also accompanied by reports of suicidal behavior and when adaptive coping strategies were reported. Finally, in an experimental study, exposure to suicide content in music significantly increased the likelihood that participants would write stories with suicide-related content (Rustad, Small, Jobes, Safer, & Peterson, 2003). Thus, for African immigrants, exposure to biased or unintentionally-encouraging media reports on suicide may deleteriously influence attitudes toward suicide.

Macrosystem

The macrosystem does not refer to specific contexts but refers to general values that exist in a culture or subculture that may influence an individual's functioning and other systems (Bronfenbrenner, 1977). Factors that are products of cultural values such as acculturation and ethnic and racial identity may result from this system and may be associated with mental health functioning and suicidal behaviors.

In general, rates of suicide are affected by cultural and socioeconomic factors. An analysis of trends from 1950 to 2009 suggests that high rates of suicide mortality are shifting from Western Europe to Eastern Europe and to Asia (Värnik, 2012). Data indicate that the

countries with the highest rates of suicide are Lithuania (34.1 per 100,000), South Korea (31 per 100,000), and Sri Lanka (31 per 100,000). Rates in the United States are estimated to be 12 per 100,000 persons (McIntosh, 2012), and the African country with the most suicide rates is Zimbabwe (7.9 per 100,000), followed by Mauritius (6.8 per 100,000) (Värnik, 2012). Within countries with the highest rates of suicide and the United States, suicide rates are often greater in rural than urban settings (Hirsch, 2006; Kalediene & Petrauskiene, 2004; Kim, Jung-Choi, Jun, & Kawachi, 2010). Such differences may be due to the effects of risk factors such as demands of rural life, possession of rural elements (pesticides), and economic distress (Hirsch, 2006). Findings on suicide in rural areas are mixed, however. Among Nigerian youths, for instance, greater rates of suicide attempt have been observed among urban inhabitants, which were linked to parental employment and marital status (Omigbodun, Dogra, Esan, & Adedokun, 2008).

Although rates of suicide are highest in developed countries (Beautrais & Mishara, 2008), national data suggest that the prevalence of suicide attempt risk factors are slightly higher for developing countries than developed countries. The 12-month prevalence rate for suicide ideation, plans, and attempts have been found to be higher for developing countries (2.1%, 0.7%, and 0.4% respectively) than for developed countries (2.0%, 0.6%, and 0.3% respectively) (Borges et al., 2010). The difference between suicide rates in developed, as compared to developing or nondeveloped, countries may be attributable to variations in the accuracy of reporting of suicide data across nations; such irregularities in reporting may, themselves, be influenced by lack of resources or socio-cultural norms (Adinkrah, 2011; Lester, 2008). In one example, a “verbal autopsy” study of 39,000 individuals conducted in India, informant-reported suicide rates were 10 times greater than those officially reported to the World Health Organization (Gajalakshmi & Peto, 2007).

Yet, for immigrants, factors such as ethnic or racial identity and acculturation – which are individually experienced but socio-culturally derived - must also be taken into consideration in suicide research and prevention. During the migration transition, immigrants move from one cultural system into another (Rogler, 1994), and acculturation is the process by which an individual gradually adapts and obtains values and beliefs from the new host country (Phinney, 1996). Previous research indicates that acculturation level, specifically low levels of social integration, is associated with poor attitudes toward mental health and less help-seeking behavior in Asian immigrants (Leong, Kim, & Gupta, 2011); however, the impact of acculturation on such beliefs and behaviors is unknown for African immigrants.

Immigrants may hold “collective and implicit beliefs about the meaning, permissibility, and adequacy of suicidal behavior” (Bursztein Lipsicas et al., 2012, p. 242), which may be different from those of the dominant beliefs in the United States. For instance, the low rates of suicide in African countries are suggested to be linked to extremely negative attitudes toward suicide (Eshun, 2006), and negative attitudes toward suicide have been found among individuals from Ghana, Nigeria, South Africa, and Uganda (Eshun, 2003; Lester & Akande, 1994). In a famous novel, *Things Fall Apart*, the suicide of a clansman was described as “an offense against the Earth, and a man who commits it will not be buried by his clansman. His body is evil, and only strangers may touch it” (Achebe, 1994, p. 207). In some African countries such as Ghana and Uganda suicide is considered a crime (Adinkrah, 2012; Knizek, Kinyanda, Owens, & Hjelmeland, 2011). Nonfatal attempted suicide is also considered a crime in Nigeria, Malawi, Kenya, Tanzania, and Rwanda, with sanctions ranging from 2 to 5 year prison sentences or monetary fines (Adinkrah, 2013). As such, the process of acculturation to the norms and beliefs of the United States may contribute to changes in the way African immigrants perceive suicide;

indeed, movement from a prohibitive culture to one that is more accepting of suicide may contribute to suicide risk.

According to the two factor model of acculturation, immigrants in a new culture can acquire values from the host culture and retain values from cultural background (Berry, 1997). The degree to which an immigrant identifies with host and heritage culture may contribute to varying levels of assimilation: 1) adoption of host culture while rejecting heritage culture; 2) separation, which refers to the rejection of host culture while retaining heritage culture; 3) integration, which refers to the adoption of host culture while retaining heritage culture; and, 4) marginalization, which is the rejection of both host and heritage cultures. Similarity between host and immigrant cultures has been suggested to affect acculturation. (Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Because the African culture is different from the United States culture (Markus & Kitayama, 1991), as African immigrants interact with the United States society, they may acquire prevalent attitudes and values that affect their attitudes toward suicide. In fact, in a study that examined the effects of acculturation among Ghanaian immigrants, greater length of stay in the United States was associated with greater acceptable attitudes toward suicide (Eshun, 2006).

Additionally, acculturation may affect mental health and treatment-seeking attitudes and behaviors. A study among Somali refugees found differential sex effects of acculturation (Ellis et al., 2010); greater association with heritage culture was associated with lower levels of posttraumatic stress disorder symptoms and depressive symptoms among girls, whereas greater association with host culture was associated with lower levels of depressive symptoms among boys. Among individuals of African descent (N = 130; 73% African American; 10.8% immigrant status) greater identification with heritage cultural beliefs was associated with decreased

psychological distress, and greater identification with host culture was associated with increased psychological distress (Obasi & Leong, 2009). Acculturation moderated the relationship between psychological distress and attitude toward seeking professional help, such that, greater identification with heritage beliefs was associated with less psychological distress and lower confidence in mental health professionals (Obasi & Leong, 2009).

In addition to the acculturative pressure to adapt to, and adopt, the cultural ideals of a new host country, immigrants must also struggle to retain a sense of heritage and their native cultural belief systems and behaviors. Ethnic identity is conceptualized as a sense of pride in one's cultural heritage (language, traditions, and values), the sense of belonging to an ethnic group, cultural commitment, and involvement in ethnic practices (Phinney & Ong, 2007b). Immigrant ethnic identity, rather than just ethnic belonging, has been suggested to be important in immigration adjustment (Walsh, Edelstein, & Vota, 2012).

Like other immigrant groups, African immigrants may be accustomed to ethnic systems of identification in their home country that de-emphasize racial hierarchy; this may not be the case in the United States. African immigrants, like other racially-Black immigrants, may attempt to differentiate their identity from that of Black or African American, and "black immigrants often strive to assert the primacy of ethnic identity over racial identity" (Guenther et al., 2011, p. 103). In general, stronger ethnic identity has been found to protect against poor mental health (Kibour, 2001; Mossakowski, 2003), but its relationship with attitudes toward suicide and help-seeking behavior among African immigrants has not been examined. To the extent that ethnic identity can be maintained despite immigrant status, an individual may experience beneficial effects on mental health (Kibour, 2001; Mossakowski, 2003). As an example, in a study of 101 Ethiopian immigrants to the United States, participants who denied identification with the Black

race and endorsed pro-White attitudes were more likely to report depressive symptoms (Kibour, 2001).

Although identification with one's own ethnic group is important for immigrants, adaptive mental health may also depend on achievement of a positive attitude toward, and incorporation of identities of, the host culture (Virta, Sam, & Westin, 2004). In support of this assertion, strong host-country identity is associated with better sociocultural adjustment, and strong country-of-origin identity is associated with better psychological adjustment (Walsh et al., 2012). Thus, psychological and interpersonal adjustment and well-being may be, in part, due to the consequence of a balance of host-country versus native ethnic identity. Such a process may require adoption, or rejection, of values, and the re-evaluation of cultural attitudes, perhaps resulting in changes of attitudes toward mental health and suicide.

African and African Immigrant Mental Health and Suicide:

Behavioral and Attitudinal Characteristics

Although the Ecological Model has not been previously applied to an understanding of the mental health or suicidal behavior of Africans or African immigrants, or to their attitudes toward such psychological dysfunction, it remains important to document current knowledge about the epidemiological base of such behavioral and attitudinal phenomena. As such, subsequent paragraphs describe rates of suicide and mental health, manifestations of mental illness and prevalent attitudes toward mental illness, and help-seeking in Africans and African immigrants.

Mental illness and suicide in Africans. Available data suggest a high prevalence rate of mental illness in countries throughout Africa. For instance, neuropsychiatric conditions are the third leading cause of disease burden in South Africa (Kakuma et al., 2010). In an interview-

based study of 4,315 South African adults using the World Health Organization Composite International Diagnostic Interview (WHO CIDI), it was estimated that in the past year 16.5% of South Africans suffered from a mental disorder (Bruwer et al., 2011; Williams et al., 2008). According to the WHO an estimated 2.17 million individuals in Ghana suffer from a moderate to mild mental disorder and about 650,000 individuals suffer from a severe mental disorder (WHO, 2007). Yet, there is a 98% treatment gap in Ghana, as is likely to exist in most African countries, indicating that, in general, Africans do not receive mental health treatment.

Studies on suicidal behavior have been conducted in African countries such as Ethiopia (Kebede & Alem, 1999), Ghana (Adinkrah, 2011), Nigeria (Omigbodun et al., 2008), South Africa (Flisher, Liang, Laubscher, & Lombard, 2004), Tanzania (Mgaya, Kazaura, Outwater, & Kinabo, 2008), and Uganda (Kinyanda, Kizza, Levin, Ndyabangi, & Abbo, 2011), revealing great variability in suicide rates. In South Africa the suicide rate is 17.2 per 100,000 people, which is higher than the global mortality rate of 16 per 100,000 people (Masango, Rataemane, & Motojesi, 2008; Meehan & Broom, 2007). Rates of suicide in Egypt have been estimated to be below 1/100,000 and, in Mauritius, they are estimated to be about 15.6/100,000 for males and 7/100,000 for females (La Vecchia et al., 1994).

The body of literature on suicidal behavior among Africans in their homeland is slowly growing, but the aforementioned inconsistent reporting of suicide deaths, along with other barriers, prevents a full understanding of suicidal behavior as it exists on a continent with one sixth of the world's population. This lack of information may imply that suicide is not a problem among Africans, and a general lack of epidemiological and psychological data prevents the development and implementation of effective suicide prevention programs (Adinkrah, 2010).

Mental illness and suicidal behavior in African immigrants. Data on the suicide related behaviors and attitudes for African immigrants are even more uncommon. In general, immigrants, including Black immigrants, arriving in the United States tend to have a health advantage and lower mortality and morbidity rate than United States-born individuals; this effect is called the “healthy immigrant effect” (Hamilton & Hummer, 2011). In Canada, for instance, results from the Canadian Health Survey indicated that rates of mental disorders were lowest among African immigrants (Ali, 2002). However, the healthy immigrant effect disappears as immigrants acculturate to the United States. Sociocultural factors affecting the mental health of African immigrants include greater likelihood of poverty, availability of only low-paying jobs, limited access to healthcare and social services, communication difficulties, and the necessity of adaptation to their new environment (Vaughn & Holloway, 2010). Additionally, greater perceived racial discrimination has been associated with poor mental health (Gee, Ryan, Laflamme, & Holt, 2006). Thus, African immigrants are not immune to mental health dysfunction (Venters et al., 2010).

Broadly, differences in rates of mental illness and suicide vary between immigrant, refugee, ethno-cultural, and racialized (nonaboriginal) groups, and hosts (Hansson, Tuck, Lurie, & McKenzie, 2012), with nonhosts at greater risk. For example, in a study of Ethiopian immigrants to Israel, high prevalence of nightmares and sleep disturbances were observed, and communication difficulties, financial stress, and attitudes of host country religious institutions were reported as sources of distress (Arieli & Ayche, 1993). Bursztein Lipsicas and colleagues (2012) assessed suicide attempt rates among 27,048 individuals of 56 immigrant groups as compared to individuals of the host countries, finding that suicide attempt rates were generally higher among immigrants than their hosts. With regard to African immigrants, suicide attempt

rates were higher among immigrants from Morocco, despite lower suicide rates existing in their home countries. In addition, in an analysis of suicide rates in England and Wales by country of birth, suicide rates among females of African origin increased with age (Shah, Lindesay, & Dennis, 2011). Findings are mixed, however; for instance, in a comparison of suicide trends between migrants from East Africa (to England and Wales) and England and Wales-born individuals, suicide deaths were significantly lower for East African males than for England and Wales-born males (Maynard, Rosato, Teyhan, & Harding, 2012). Further, although cross-national comparisons suggest low rates of suicide among African countries, such low rates may be attributable to poor accuracy of suicide death reporting, the presence of unique protective factors such as negative attitudes toward suicide and collectivistic support networks, systematic differences in the priority placed on mental health issues, and cultural differences in symptom manifestation and diagnosis (Adinkrah, 2011; Aina & Morakinyo, 2011; Bird et al., 2011; Lund et al., 2011).

Cultural manifestation of mental health symptoms in Africa. Although African immigrants may experience universal mental health conditions such as symptoms of anxiety or depression, the symptom manifestations of these conditions may vary. As an example, cultural differences in symptom manifestation of depression have been reported among African immigrant women (Sellers, Ward, & Pate, 2006); specifically, the experience of depression was described as psychosomatic in nature including the experience of a heavy body, frequent tiredness, body aches, headaches, and sad feelings. It is also possible that the expression of mental illness among African immigrants is not captured by the Western method of diagnosing mental illness.

Culture-bound syndromes, or culturally-influenced symptoms, may often be present in Africans and African immigrants but may not be detected by DSM-based diagnostic processes (Aina & Morakinyo, 2011); these may include maladaptive behaviors that are common in folk belief and practice. According to Aina and Morakinyo (2011) there are many culture-bound syndromes in Africa that have not been recognized in the international classification system, including Brain Fag Syndrome, Koro and Koro-like syndrome, Ogun Oru, and Ode Ori. As but one example, symptoms associated with Ode Ori include “crawling sensation, noise in ears, palpitation, peppery sensation, darkened vision (“Oju sisu”), dizziness (“Oyi”), headache, other body pains and itching or tickling sensation” (Aina & Morakinyo, 2011, p. 281).

Attitudes of Africans and African immigrants toward mental health and suicide.

Despite potential differences in symptom manifestation, a good starting point in understanding the mental health needs of African immigrants may be the assessment of attitudes toward mental health. African immigrants, like other immigrant groups in the United States, possess cultural values, beliefs, and norms that are often different from those of their host country (Jambunathan, Burks, & Pierce, 2000). In addition to U.S.-based environmental and socio-cultural factors, exposure to the acculturative and ethnic-identity processes may result in changes in beliefs and practices.

The term “culture” refers to meanings, values, and behavioral norms that are socially-learned and shared among a group of people (Lu, Lim, & Mezzich, 1995), are transmitted across generations, and have influence on the cognitions, emotions, and behaviors of those adhering to the cultural ideals. As such, culture may affect the way people think about mental health and suicide. According to Lum (2003) mental illness is given cultural meaning via the following ways: i) through illness symptoms (sensations, thoughts, emotions, behavior); ii) through cultural

significance of illness; iii) through personal and social relationships; and, iv) through explanations of illness development. As an example, in a study among Liberian psychiatric nursing students, one student wrote:

“One man in our village took mentally ill when he was a young boy. He was the son of a rich man with over 20 wives. The boy was the first son of the head wife and was his father’s most loved. All the other wives were jealous and decided to witch him to get him mad. They took a piece of his clothes to a zoe who used the clothes to make the boy go mad” (Hales as cited in Acquaye, 2011, p. 75).

For most Africans, “attitudes toward mental illness are still strongly influenced by traditional beliefs in supernatural causes and remedies” (Gureje & Alem, 2000, p. 1); it is not uncommon for individuals demonstrating symptoms of mental illness to be termed “mad” or “cursed.” In general, Africans tend to believe that physical and mental health conditions stem from external causes such as hostile ancestral spirits, demonic possession, evil eye, and affliction by God or gods (Mohamed, 2003; Nyagua & Harris, 2007). Even in African countries such as South Africa where greater advances have been made toward Westernized mental health diagnostic and service processes, perceived external causes of psychopathology are still very common and most individuals with mental health dysfunction seek help from traditional healers (Campbell-Hall et al., 2010). Religion may also play a role in perceptions about mental illness. While the dominant religions of Africa are Christianity and Islam, most Africans practice African Traditional Religion (ATR), which consists of “the concept of God ... the concept of divinities and/or spirits as well as beliefs in the ancestral cult” (Awolalu, 1976). A common belief evolved from ATR is a religious explanation for mental illness – for example, that mental illness is caused by a possession - and with selection of alternative medicine for treatment, such

as traditional healers (Izugbara, Etukudoh, & Brown, 2005; Umoren, 1990). Such beliefs may linger for immigrants; for instance, in a qualitative study of female Somali immigrants in the United States, mental illness was reported as a concern and explained as having spiritual causes (Pavlish, Noor, & Brandt, 2010).

African cultural and religious beliefs such as these may contribute to low mental health literacy and, thereby, prevent treatment-seeking as well as the implementation of evidence based treatment (Acquaye, 2011). Such beliefs are present in both educated and uneducated Africans (Acquaye, 2011). In a study by Hales of the mental health attitudes of Liberian psychiatric nursing students, mental illness was construed as: i) a result of being witched; ii) curses being passed down within a family; and, iii) punishment, by spirits, for wrongdoing (as cited in Acquaye, 2011). Yet, although traditional beliefs may influence mental illness perception, exposure to alternative causal contributors to mental health, perhaps through psycho-education, may result in changes in perceptions about mental illness and its treatment.

Help seeking behavior among Africans and African immigrants. Many factors play a role in engagement in treatment-seeking behaviors in Africans and African immigrants, including individual-level, socio-cultural, and environmental elements. The availability of mental health resources in most African countries is scarce; for instance, it has been estimated that there is one psychiatrist per one million people in Africa and some countries, like Angola, have no psychiatrist (Bartlett, Jenkins, & Kiima, 2011). In addition, less than 1% of the total health budget is spent on mental health, for 70% of African countries (Bird et al., 2011). It is also likely that a significant number of Africans with mental health problems are undiagnosed and, thus, are unaware of the need to seek mental health care. In a study involving 111 Zambian health care professionals, 74% agreed and 55.9% strongly agreed that there were more individuals in the

community with mental illness than those seen at health centers (Kapungwe et al., 2011). Thus, help-seeking behavior among Africans is affected not only by knowledge of mental health issues but also by the availability of mental health resources as well as the lack of a formal prevention and intervention system in communities. In most African countries, such as Nigeria, biomedical treatment, indigenous approaches to healing, and faith healing coexist; and, traditional medicine is the oldest, most accessible, and most used source of mental health treatment (Izugbara et al., 2005).

For African immigrants results from a study examining mental health among 87 African immigrants to the United States from 13 African countries indicate that 36.8% ($n = 32$) African immigrants reported mental health issues, yet only 5% indicated receiving a referral for mental health services (Venters et al., 2011). Another study among 342 Ethiopian immigrants and refugees in Canada found that mental health service use among Ethiopians with a mental disorder was significantly lower than that of Canadians, and Ethiopians were more likely to seek help from traditional healers (Fenta et al., 2006). For most immigrants including African immigrants, help seeking behavior may be affected by barriers that limit access to mental health services such as economic status, level of understanding of host country health care system, cultural beliefs about mental health, preference for alternative remedies, and discrimination (Fenta et al., 2006).

Help seeking behavior may also be affected by negative attitudes toward mental illness. Several studies have identified negative attitudes among African students, health care professionals, and lay persons in Ghana, South African, and Zambia (Barke, Nyarko, & Klecha, 2011; Kapungwe et al., 2011; Stones, 1996). Further, many Africans and African immigrants may not feel they have a need for mental health treatment, perhaps due to low health literacy, a

disbelief in mental illness, or a culturally-oriented view of mental illness. For instance, in a qualitative study by Pavlish, Noor, and Brandt (2010) examining health care expectations among Somali immigrant women, some participants indicated that treatment for illness was sought from ‘Allah,’ and reported that most African women are uncomfortable discussing their feelings with a health provider. In the United States formal mental health services are more likely to be sought by acculturated minority individuals (Frey & Roysircar, 2006). Therefore, there might be differences in help seeking behavior among African immigrants, depending on acculturation level.

Bruwer and colleagues (2011) analyzed interview data from the South African Stress and Health Study (SASH) to examine barriers to seeking mental health care and predictors of treatment discontinuation among individuals already seeking mental health services. Low perceived need for treatment was the primary reason why individuals did not seek professional services. Among individuals who recognized the need for treatment but failed to seek professional services, attitudinal and structural barriers prevented treatment-seeking. Common attitudinal barriers included perceptions that: i) the problem was not severe; ii) the problem would get better; iii) that treatment would be ineffective; and, iv) a preference to handle problems on one’s own. Structural barriers included lack of available services and financial costs. This is the only study that has attempted to systematically examine help-seeking behavior among Africans; however, African immigrants were not included in this research.

In summary, African immigrants are under-researched and little is known about how individual, cultural, and ecological factors including age, gender, social class, spirituality, acculturation, and ethnic identity may affect attitudes toward suicide, mental health, and help seeking behavior of African immigrants in the United States. As such, it is imperative to gain

additional knowledge about the effects of acculturation and ethnic identity on mental health-related attitudes and behaviors, not only to improve mental health functioning among this group but to also inform the development of culturally-sensitive prevention and intervention programs. Based on such need, this study's purpose is to expand the current understanding of potential ecological contributors to the psychological adjustment and functioning of African immigrants in the United States.

Hypotheses

- H1: In exploratory investigation of narrative themes pertaining to causes of suicidal behavior, stigma toward suicidal behavior, acceptability of suicide, and knowledge of resources for suicidal individuals, I hypothesize that cultural perceptions about the origins of suicidal behavior, condemning attitudes toward suicidal behavior, referral of suicidal individuals to informal resources such as family members or clergy, and low levels of acceptance of suicide will be found.
- H2: At the bivariate level, I hypothesize that:
 - H2a: Greater levels of integration will be associated with lower levels of condemning attitudes toward suicide, fewer symptoms of depression and anxiety, lower levels of stress and culture oriented psychological distress, and greater reporting of positive attitudes toward and preference for seeking professional mental health services.
 - H2b: Greater levels of assimilation will be associated with lower levels of condemning attitudes toward suicide, fewer symptoms of depression and anxiety, lower levels of stress and culture oriented psychological distress, and greater

reporting of positive attitudes toward and preference for seeking professional mental health services.

- H2c: Greater levels of separation will be associated with greater levels of condemning attitudes toward suicide, greater symptoms of depression and anxiety, greater levels of stress and culture oriented psychological distress, and lower reporting of positive attitudes toward and preference for seeking professional mental health services.
- H2d: Greater levels of marginalization will be associated with lower levels of condemning attitudes toward suicide, greater symptoms of depression and anxiety, greater levels of stress and culture oriented psychological distress, and lower reporting of positive attitudes toward and preference for seeking professional mental health services.
- H2e: Greater levels of ethnic identity will be associated with a greater frequency of condemning attitudes about suicide, lower levels of depressive and anxiety symptoms, less reported perceived stress and culture oriented psychological distress, and greater negative attitudes toward and less preference for professional mental health services.
- H3: In multivariable regression analyses, I hypothesize that:
 - H3a: Individual level characteristics such as higher levels of education, being a female, older age, greater spirituality, greater religiousness, lower levels of mental health problems (depressive symptoms, anxiety symptoms, perceived stress, and reported culture oriented psychological distress), and less self-reported suicidal behaviors will predict lower levels of tolerant attitudes toward suicide and lower

perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems.

- H3b: Microsystem level characteristics including lower exposure to the suicide of a family member or peer, and being married and employed will predict lower tolerant attitudes toward suicide, lower perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems.
- H3c: Mesosystem level characteristics including greater perceived social support and higher levels of subjective social class relative to individuals in the United States and country of origin will predict lower tolerant attitudes toward suicide, lower perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems.
- H3d: An exosystem level characteristic, less exposure to media presentations of suicidal behavior will predict lower tolerant attitudes toward suicide, lower perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems.
- H3e: Macrosystem level characteristics including lower American cultural identification, greater ethnic commitment or exploration and African cultural identification will predict lower tolerant attitudes toward suicide, lower perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems.
- H4: The relationship between acculturation and help-seeking behavior will be mediated by attitudes toward suicide.

- H4a: Greater levels of identification with African culture will be associated with less tolerant attitudes toward suicide; in turn, lower approving attitudes toward suicide will be associated with lower positive attitudes toward professional mental health services.
- H4b: Greater levels of identification with United States culture will be associated with greater tolerant attitudes toward suicide; in turn, greater tolerant attitudes toward suicide, will be associated with lower positive attitudes toward professional mental health services.
- H5: The relationship between spirituality and suicide attitude will be mediated by depression, anxiety, perceived stress, and suicidal behavior. Greater levels of spirituality will be associated with lower levels of depressive symptoms, anxiety symptoms, perceived stress, and suicidal behavior that, in turn, will be related to fewer negative attitudes toward suicide.
- H6: The relationship between religiousness and suicide attitude will be mediated by depression, anxiety, perceived stress, and suicidal behavior. Greater levels of religiousness will be associated with lower levels of depressive symptoms, anxiety symptoms, perceived stress, and suicidal behavior that, in turn, will be related to fewer negative attitudes toward suicide.

CHAPTER 2

METHODS

Participants

Participants for this study included African immigrants of diverse age and country of origin. Participants consisted of both community members and college students, at least 18 years old, who volunteered to respond to self-report measures with a random chance to earn a \$50 gift card. The target sample size for this study, which is based on results from a power analysis (discussed below), was 122 participants. A cutoff score of 20% and above for missing data has been used by some researchers as the recommended percentage of missing data that can become problematic (Schlomer, Bauman, & Card, 2010). As such, an additional 25% ($n = 31$) of the projected sample was collected to account for missing or corrupted data, for a required total of 153 participants. The current sample consisted of 227 participants and demographics are described in the next section.

Procedure

Prior to data collection study approval was solicited from the East Tennessee State University Institutional Review Board. Participants were recruited through a variety of electronic and interpersonal means including email listservs and social networks such as Facebook. The author used the internet and personal social networks to locate directors of international programs at universities, networks of African immigrants, moderators or administrators of African internet groups such as those on Facebook, and representatives of African organizations in the United States. Identified stakeholders were contacted with a request to distribute a letter and invitation to African immigrants served by the identified entities (see Appendices S and T); for example, administrators of African organizations that are identified via Facebook were

requested to post a survey link onto their page or otherwise disseminate the survey link to their group members. To facilitate responses and ensure that the projected sample size was attained, stakeholders were sampled from at least 100 colleges and universities in all 50 states and from diverse African organizations (see Appendix U). The cover letter used included information about the study goals, participant requirements, informed consent, and a link to Survey Monkey.

Survey Monkey is a private American company that permits users to create their own web-based survey, a survey weblink, and Facebook collector. Of importance, Survey Monkey adheres to IRB guidelines by permitting the inclusion of an informed consent and allows participants to choose to participate or not. This website has the capacity to store data securely, and the collection of participant IP addresses can be turned off.

Some advantages of web-based surveys are that they are inexpensive, they provide fast results, and collected data can be easily prepared for data analysis (Solomon, 2001). A disadvantage of web-based surveys is lack of response. However, recommendations to increase response rate include: forwarding a cover letter with the survey hypertext link and following-up on contacts (Solomon, 2001). As such, the author sent a second email to identified stakeholders months after the first email. An additional weakness is the tendency for there to be fewer completed items in data collected online than data collected in person (Gregory & Pike, 2012); as such, a greater number of participants were recruited than was required according to a power analysis to allow for the deletion of cases with excessive missing data.

This study used a mixed methods data collection procedure known as a “concurrent QUAN + qual” study design (Hanson, Creswell, Clark, Petska, & Creswell, 2005). That is, quantitative and qualitative data were collected at the same time and greater priority was given to the quantitative data. The qualitative data collection methodology is influenced by Grounded

Theory method, a process by which theory is derived from data (Strauss & Corbin, 1998). In this current study the Grounded Theory method was employed to describe and characterize the attitudes of African immigrants towards suicide and suicide prevention. More information on the Grounded Theory method is provided in the analysis section.

Previous research on suicide has used the mixed-method QUAN + qual design, and open-ended questions have been used for qualitative data collection (Wong, Koo, Tran, Chiu, & Mok, 2011). Open-ended questions were administered first to prevent other measures from influencing participant responses. The quantitative method consisted of measures with closed-ended response choices, and these measures were administered in randomized fashion. Because lengthy measures can result in an extended completion time, low response rate, and greater dropout rate (estimated to be about 12%) (Hoerger, 2010), preference was given to brief measures.

Materials

Demographic questionnaire. Participants responded to items assessing socio-demographic variables such as age, sex and sexual orientation, ethnicity, education level, income, employment status, marital status, years in the United States, and religiousness (see Appendix A). Demographic data were used to classify and characterize the sample and assess predictors of suicide attitude.

Open-ended questions. The use of qualitative open-ended questions has been suggested to add substantial value and depth to quantitative self-report based questionnaires (Harland & Holey, 2011). As such, to understand subjective perceptions about suicide among African immigrants, participants responded to seven open-ended questions. The questions consisted of modified items from a qualitative study on attitudes toward suicide among psychologists and nurses in Ghana (Osafo, Knizek, Akotia, & Hjelmeland, 2012). Questions include: i) “In your

opinion, what might cause an African immigrant to think about attempting suicide and what is your attitude toward suicide?;” ii) “What do you think about suicide as a crime?;” iii) “What would you do if someone you know was suicidal?;” iv) “How do you think others would feel if an African was suicidal?;” and, v) “Indicate the reason why you are for or against suicide and suicide.” Open-ended questions have been widely used to understand mental health issues and barriers to mental health among African immigrants (Pavlish, Noor, & Brandt, 2010; Saechao et al., 2012; Tranulis, Corin, & Kirmayer, 2008).

Spirituality. Spirituality was assessed by the Intrinsic Spirituality Scale (ISS) (Hodge, 2003). This measure assessed the degree to which spirituality, as a transcendent construct, influences a person’s life. The ISS is a six-item measure and uses a sentence completion format. Participants will respond to incomplete sentence fragments that are followed by two phrases at the end points of an 11-point Likert scale (see Appendix C). As an example, participants indicated the degree to which “my spiritual beliefs affect: 0 – no aspect of my life” to “10 – absolutely every aspect of my life.” Higher scores indicate higher intrinsic spirituality; overall level of intrinsic spirituality was obtained by averaging scores on the six items. This measure has not been used with Africans, but in a sample of college students in the United States it exhibited excellent internal consistency ($\alpha = .96$) and demonstrated concurrent validity with a measure of intrinsic religion ($r = .91$) (Hodge, 2003). In a sample consisting of both African Americans and Whites, the ISS demonstrated good concurrent validity, correlating with prayer frequency (Spearman $r = .57$) (Wilks, 2007). In the current sample Cronbach’s $\alpha = .91$.

Religiousness. The Duke University Religion Index (DUREL) was used to assess religiousness (Koenig & Büssing, 2010; Koenig, Parkerson, & Meador, 1997). This measure consists of five items: organized religious activity (“how often do you attend church or other

religious meetings?); nonorganized religious activity (“how often do you spend time in private religious activities, such as prayer, meditation or Bible study?”); and, 3 items assessing intrinsic religiosity [e.g., “in my life, I experience the presence of the Divine (i.e., God)”] (see Appendix D). Items are scored on a 5 to 6-point Likert scale, and a total score is obtained by summing responses; total score ranges from 5 to 27. Internal consistency (Cronbach’s alpha) for the intrinsic religiousness subscale ranges from .75 to .88 (Koenig et al., 1997). Although the DUREL has not been used in an African sample, it has been used in a Lithuanian sample, where the intrinsic religiousness items demonstrated good internal consistency ($\alpha = .82$). In a study of participants from the United States ages 18 to 97 years old, the DUREL demonstrated high convergent validity with other measures of religiosity (r ’s = .71 - .86) and an excellent test-retest reliability (intra-class correlation = .91) (Koenig & Büssing, 2010). In the current sample Cronbach’s $\alpha = .91$.

Mental health. Mental health was assessed using the Depression Anxiety Stress Scale (DASS 21) (Lovibond & Lovibond, 1995), which generates three affectively-based scales: i) the depression scale with sample item “I couldn’t seem to experience any positive feeling at all;” ii) the anxiety scale with sample item “I felt scared without any good reason;” and, iii) the stress scale with sample item “I found it hard to wind down.” Participants indicated on a 4-point Likert scale, ranging from 0 (“did not apply to me at all”) to 3 (“applied to me very much, or most of the time”), the extent to which they have experienced seven symptoms from each of the three scales over the past week (see Appendix E). Scores for each scale range from 0-21, with higher scores indicating greater levels of depression, anxiety, and stress. The scales were used as continuous measures. In a nonclinical sample of adults, alpha coefficients indicated good internal consistency for the depression ($\alpha = .88$) and anxiety ($\alpha = .82$) scales, and good internal

consistency for the stress scale ($\alpha = .87$) (Henry & Crawford, 2005). As an indication of concurrent validity, the depression scale correlated with the the Beck Depression Inventory ($r = .79$), the anxiety scale correlated with the Beck Anxiety Inventory ($r = .85$), and the stress scale correlated with the State-Trait Anxiety Inventory – Trait version ($r = .68$; measures tendency to experience anxiety and perceive stress) (Antony, Bieling, Cox, Enns, & Swinson, 1998). In a sample including 645 Nigerian students and 105 international students, good internal reliability has been observed for the depression symptoms ($\alpha = .89$), anxiety symptoms ($\alpha = .89$), and stress ($\alpha = .88$) subscales (Busari, 2011). In the current study Cronbach's α for depressive symptoms = .87, for anxiety symptoms = .73, and for stress = .77.

Culturally-oriented symptoms of psychological distress was assessed with three items previously used in an African sample (Jina et al., 2012). According to Jina and colleagues (2012) the three items represent indigenous idioms of culture oriented psychological distress and include: “perceived feeling of the heart being painful, spirit being low and thinking too much in the last week” (p. 866) (see Appendix F). Participants scored these three items on a 4-point Likert scale ranging from 0 = “rarely or none of the time,” 1 = “some or a little of the time (1-2 days),” 2 = “moderate amount of time (3-4 days),” to 3 = “most or all of the time (5-7 days).” Total scores range from 0-9 and higher scores represent greater levels of culture oriented psychological distress. This psychological distress measure was used as a continuous measure. Among South Africans; the measure exhibited good internal reliability ($\alpha = .86$; Jina et al, 2012). In the current sample, Cronbach's $\alpha = .71$.

Suicidal behavior. Suicidal behavior was assessed with the Suicidal Behaviors Questionnaire-Revised (SBQ-R) (Osman et al., 2001), a 4-item measure that assesses suicidal thoughts and behavior. Although individual items can be examined, a total score can also be

attained and was used in this study. The SBQ-R assesses suicidal ideation and attempts (“Have you ever thought about or attempted to kill yourself”) on a 1-4 Likert scale; suicide ideation in the past year (“How often have you thought about killing yourself in the past year”) on a 1-5 Likert scale; communication of intent (“Have you ever told someone that you were going to commit suicide, or that you might do it”) on a 1-3 Likert scale; and, likelihood of future attempts (“How likely is that you will attempt suicide someday”) on a 0-6 Likert scale (Linehan & Nielsen, 1981; Osman et al., 2001). The total score ranges from 3-18, with higher scores representing greater suicidal behavior; the SBQ-R will be used as a continuous measure (see Appendix G for complete measure). The SBQ-R exhibits good reliability among a sample of psychiatric adult inpatients ($\alpha = .87$) and good reliability among a sample of undergraduates ($\alpha = .88$); in a nonclinical sample of undergraduates, a cutoff score of 7 had 93% sensitivity and 95% specificity for distinguishing between suicidal and nonsuicidal individuals (Osman et al., 2001). The SBQ-R has demonstrated convergent validity, correlating with a measure of self-harm (Self-Harm Behavior Questionnaire; $r = .77$) (Gutierrez, Osman, Barrios, & Kopper, 2001) and another measure of suicide (the Adult Suicidal Ideation Questionnaire; $r = .40$) (Osman et al., 2001). Although the SBQ-4 has not been used with an African sample, in a Chinese sample, Cronbach’s alpha was questionable ($\alpha = .68$) (Zhao et al., 2012). In this study Cronbach’s $\alpha = .77$.

Peer suicide. Three items created by this researcher were used to measure participants experience with and exposure to peer suicidal behavior. In a previous study that used clinical interviewing to assess exposure to suicidal behavior, questions assessing exposure to peer suicide were consistent with definitions of suicidal behavior (Burke et al., 2010). As use of appropriate terminology is crucial for accuracy, accepted nomenclature was used to describe suicidal

behavior including suicide ideation, suicide attempt, and suicide (Nock et al., 2008). The items consisted of: “a friend/peer has told me they were thinking of suicide,” “I know of a friend/peer who attempted suicide,” and “I know of a friend/peer who died by suicide.” Items were scored as 1 = “no” and 2 = “yes” (see Appendix H). The peer suicide scale was used as a continuous measure, and higher scores indicate greater exposure to the suicidal behavior of a peer.

Suicide of family member. In a qualitative study by Shilubane and colleagues (2012) among South African youths, knowledge on suicidal behavior among family member was assessed with the question: “did anyone in your family commit or attempt suicide before your attempt incidence” (p. 189). For this study, and again consistent with recognized terminological labeling of suicidal behaviors (Nock et al., 2008), three items created by this author were used to measure participants’ experience with the suicidal behavior of a family member. The items consisted of: “a family member has told me they were thinking of suicide,” “I know of a family member who attempted suicide” and “I know of a family member who died by suicide.” Items were scored as 1 = “no” and 2 = “yes” (see Appendix I). The family suicide scale was used as a continuous measure; higher scores indicate greater exposure to the suicidal behavior of a family member.

Social support. The degree to which participants perceive social support was assessed across three domains of social connectedness by the Vaux Social Support Record (VSSR), a nine-item measure that assesses participant’s perceptions about the availability of guidance, emotional advice, and support from family, peers, and school (Vaux, 1988a; Vaux et al., 1986); in this study school was replaced with community. Three items assess perceived social support for each domain (Vaux, 1988b). Items were scored on a 3-point Likert scale that ranges from “not at all” (1), “some” (2), and “a lot” (3). Subscale scores range from 3 to 9, and total score

ranges from 3 to 27, with higher scores indicating greater perceived support. Sample items for the community-member domain consist of “I have community members I can talk to that care about my feelings and what happens to me,” and “I have community members that I can talk to, who give good suggestions and advice about my problems” (see Appendix K for complete measure). The scales in this measure were used as continuous measures. This measure has been predominantly used with children and adolescents, and among adolescents excellent internal reliability has been demonstrated for the family ($\alpha = .91$) and peer ($\alpha = .90$) domains, and good internal reliability has been demonstrated for the school ($\alpha = .85$) domain (Kaminski et al., 2010). Significant negative associations have been found between depressive symptoms and family support ($r = -.15, p < .001$), school support ($r = -.23, p < .001$), and peer support ($r = .04, p < .01$). This measure has not yet been used in an African sample. In this study Cronbach’s $\alpha = .90$.

Social class. Participants’ subjective perception of social position was measured by the MacArthur Scale of Subjective Social Status (Adler, Epel, Castellazzo, & Ickovics, 2000). The measure consists of a “community ladder” with 10 rungs representing people with different levels of educational attainment, income, and occupational status. Rung 10 represents people with the highest standing in the society, and rung 1 represents people with the lowest standing. Participants were asked to: i) “indicate the ladder number that represents your current position relative to individuals in the United States; and ii) “indicate the ladder number that represents your current position relative to individuals in your country of origin.” In a study among White females the MacArthur Scale of Subjective Social Status was a better predictor of psychological functioning than an objective measure of socioeconomic status (a composite of education, income, and occupation) and was associated with subjective stress ($r = -.25$), negative affectivity

($r = -.31$), and chronic stress ($r = -.36$) (Adler et al., 2000). A subjective, rather than objective, measure of social class was used because individual perceptions about one's social standing may be more meaningful and reflective of attitudes toward suicide than an objective measure. Subjective social class has also been associated with mental health among Mexican-origin individuals in the United States (Franzini & Fernandez-Esquer, 2006). The community ladder has demonstrated good 2 month test-retest reliability for individuals in the United States that are above the age of 15 ($\alpha = .78$) (Goodman et al., 2001). The community ladder has been used in a South African sample and was predictive of depressive symptoms ($\beta = -2.02, p < .01$) and perceived stress ($\beta = -.78, p < .01$) (Hamad et al., 2008). In this study social class relative to individuals in the United States was associated with employment status ($r = .17, p = .03$), income ($r = .32, p < .001$), depressive symptoms ($r = -.26, p = .001$), culture oriented psychological distress ($r = -.19, p = .015$), and social class relative to individuals in Africa ($r = .38, p < .001$). Social class relative to individuals in one's home country was not associated with employment status, income, depressive symptoms, and culture oriented psychological distress.

Media exposure to suicide. Exposure to media-broadcast information regarding suicidal behavior or deaths by suicide was measured by six items, modified from five items used in a study by Lee (2011), examining the effects of media exposure on environmental attitudes. Participants were asked to indicate the frequency with which they are exposed to messages related to suicidal behavior via: i) television programs, including news broadcasts; ii) internet or web, including internet-based news services; iii) radio programs, including news broadcasts; iv) newspapers; v) film or video; and, vi) short message service (SMS). Items were answered on a 5-point Likert scale ranging from 1 = "never," 2 = "rarely," 3 = "occasionally," 4 = "often," and 5 = "frequently" (see Appendix J). The six items were summed to form an overall score of media

exposure to suicide. Higher scores indicate greater media exposure to messages about suicidal behavior. In Lee's (2011) study Cronbach's alpha for all items was good ($\alpha = .78$). In this study Cronbach's $\alpha = .83$.

Acculturation. The Acculturation Index was used to assess two dimensions of acculturation including identification with culture of origin and identification with host culture. (Ward & Kennedy, 1994). Participants completed 21 items assessing cognitive and behavioral dimensions of acculturation, each having two comparative questions focused on current lifestyle including language, customs, recreational activities, and food. Sample items include: (i) "How similar are you to people from your country of origin in the following domains?" and (ii) "How similar are you to Americans in the following domains?" (see Appendix M). Items were rated on a 7-point Likert scale ranging from "not at all similar" (1) to "extremely similar" (7). The Acculturation Index produces two subscales, African cultural identification and American cultural identification, with scores on each subscale ranging from 21 to 147. Higher scores indicate greater identification with that culture. A commonly used method for classifying acculturation – a bipartite split method - was used to classify the two identification scales into four modes of acculturation: separated, marginalized, integrated, and assimilated (Ward & Rana-Deuba, 1999).

The Acculturation Index has not been used in an African sample; however, in a cross-cultural study the Acculturation Index demonstrated good internal reliability for East Asian cultural identification ($\alpha = .89$) and excellent internal consistency for American cultural identification ($\alpha = .91$); these scales are orthogonal in nature ($r = .003$) (Tadmor, Tetlock, & Peng, 2009). The AI measure for East Asian cultural identification correlated with a single item measure of heritage cultural identification by Benet-Martinez, Lee, and Leu (2002) ($r = .64$), and

the American cultural identification correlated with a single item measure of American cultural identification by Benet-Martinez and colleagues ($r = .64$) demonstrating convergent validity. In Ward and Rana-Deuba's (1999) study consisting of mostly Western Europeans and North Americans in Nepal, Nepali foreigners who identified with culture of origin were less likely to experience depression, and individuals who identified with host nationals were more likely to experience difficulty with sociocultural adaptation. Additionally, assimilated individuals were less likely to experience social difficulty than separated, integrated, and marginalized individuals, and integrated individuals were less likely to experience depression. In this study, Cronbach's alphas for African cultural identification ($\alpha = .95$) and for American cultural identification ($\alpha = .93$) and were excellent.

Ethnic identity. The Multigroup Ethnic Identity Measure – Revised (MEIM-R) was used to assess ethnic identity (Phinney & Ong, 2007a). The MEIM-R consists of two subscales, exploration and commitment, and is comprised of six items rated on a 5-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (5), with 3 as a neutral position (see Appendix N for measure). Each subscale has three items and higher scores represent greater exploration or commitment. The total score for the MEIM-R has demonstrated good internal consistency ($\alpha = .81$) in a sample of European Americans and minorities (Phinney & Ong, 2007a), and good and excellent internal consistency for the subscales of exploration (.87 and .91) and commitment (.88 and .84) have been observed in a diverse sample of minorities, including African American, Latino or Latina American, Native American, and biracial or multiracial individuals, and European American (Yoon, 2011). Also, confirmatory factor analyses demonstrated construct validity of the MEIM-R for both the minority and European American groups, as fit indices (CFI = .98 and .97; SRMR = .05 and .04 respectively) were adequate, and

two-factor structures (exploration and commitment) were observed. However, in a study among Zimbabweans results from a factor analysis indicated a single factor solution (Worrell, Conyers, & Mpofu, 2006). Because the exploration and commitment subscales have been observed to be highly correlated ($r = .74$), despite being separate, Phinney and Ong (2007a) recommend use of the total score. In the current sample Cronbach's $\alpha = .90$.

Attitude toward suicide. The Suicide Attitudes Survey (SAS) is an eight-item measure of attitudes toward suicide; the SAS has been used successfully in a sample of Ghanaian immigrants to the United States (Eshun, 2006). Sample items include “feel ashamed if relative committed suicide” and “suicide victims have a weak personality” (see Appendix O). Participants rate items on a 5-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). This measure produces a total score, and higher scores represent negative attitudes about suicide. According to Eshun (2006), the SAS was adapted from previous studies by Lester and Akande (1994) and Eshun (2003) on African samples. The SAS has demonstrated questionable internal consistency ($\alpha = .69$) in a sample of Ghanaian immigrants in the United States (Eshun, 2006). In the current sample Cronbach's $\alpha = .58$, with an average correlation between items of .14.

The Attribution of Causes to Suicide Scale (ACSS) is an 18-item measure that assesses causes to which individuals attribute suicide (Lester & Bean, 1992). This scale consists of three subscales: intrapsychic problems (e.g. “most people who kill themselves are depressed”), interpersonal conflicts (e.g. “a suicide attempt is usually an attempt to get sympathy from others”), and societal pressures (e.g. “There are features of modern industrialized societies which make suicide more common”). Items are rated on a 6-point Likert scale ranging from “strong disagreement” (1) to “strong agreement” (6) (see Appendix P). In an Austrian sample internal

consistency for the overall scale was acceptable ($\alpha = .72$), and variable internal consistency has been examined for the intrapsychic ($\alpha = .46$), interpersonal causes ($\alpha = .64$), and societal ($\alpha = .56$) subscales (Voracek, Loibl, & Lester, 2007). Also, the intrapsychic scale was associated with religiousness ($r = .20$). In a study consisting of Turkish participants Cronbach alpha scores for intrapsychic problems, interpersonal conflicts, and societal pressures were .51, .50, and .51, respectively (Vatan, Gençöz, Walker, & Lester, 2010). In an Austrian sample 2-month test-retest reliabilities have demonstrated significant positive correlations: intrapsychic ($r = .67$), interpersonal ($r = .53$), and societal concern ($r = .56$) (Loibl, Tran, Hirner, & Voracek, 2008). In the current sample Cronbach's alpha and average correlation between items for intrapsychic causes ($\alpha = .68$, $r = .26$), interpersonal causes ($\alpha = .62$, $r = .22$), and social causes ($\alpha = .58$, $r = .19$) was questionable.

Help-seeking behavior. Help-seeking behavior was measured by the Attitudes toward Seeking Professional Psychological Help Scale - Short Form (ATSPPH-SF) (Elhai, Schweinle, & Anderson, 2008; Fischer & Farina, 1995). The ATSPPH-SF consists of 10 items, and assesses an individual's attitudes toward seeking help from professionals. Sample items include "If I believed I was having a mental breakdown, my first inclination would be to get professional attention" and "I might want to have psychological counseling in the future." Participants rated items on a 4-point Likert scale that ranges from "disagree" (0) to "agree" (3) (see Appendix Q). Scores range from 0 to 30 and higher scores represent more positive attitudes toward seeking psychological treatment. Among White college students in the United States this scale has demonstrated acceptable and good internal consistency ranging from .77 to .84 and good test-retest reliability over 1 month of .80 (Elhai et al., 2008; Fischer & Farina, 1995). The ATSPPH-SF is strongly related to scores on the longer version of the ATSPPH ($r = .87$), and higher scores

on the ATSPPH-SF have been associated with greater intentions to seek mental health services at 1 month ($r = .24$) and at 6 months ($r = .26$). Criterion validity has been demonstrated; participants reporting higher use of mental health services also score higher on the ATSPPH-SF (Fischer & Farina, 1995). This scale has been used reliably in a sample consisting of individuals from South Africa (Samouilhan & Seabi, 2010). In this study Cronbach's $\alpha = .63$, with average correlation between items of .15.

Data Analyses

Before data analyses, techniques to address missing data were used. Of 285 participants who took part in this study, for qualitative analyses, 58 cases with no responses on any of the qualitative questions were deleted and 227 cases were retained for analyses. Also, of 285 participants, cases missing 50% or greater of the required data were deleted, resulting in data from 168 participants retained for quantitative analyses. Item mean imputation was used if 20% or fewer items for a particular scale were missing (Downey & King, 1998). During data analyses, built-in statistical software approaches such as casewise deletion were used for scales with missing items. The strategy to eliminate cases with large amounts of missing data and to only use 168 cases for quantitative analyse was to minimize variability in sample characteristics across analyses. Case wise deletion, although the default method for dealing with missing data, may be problematic in a sample with large amounts of missing data because the specific cases being analyzed in any given statistical test may change depending on variables in use, increasing the likelihood of errors of inference and decreasing replicability (Schafer & Graham, 2002).

Five types of analyses were used: content analysis to test H1, bivariate correlation analyses to test H2 and H3, multiple regression analyses to test H4, mediation analysis to test H5, H6, and H7, and Cronbach's alpha analyses to examine the internal consistency of measures.

All statistical analyses of the quantitative results were conducted with the use of International Business Machines Statistical Package for Social Sciences software (IBM SPSS) version 20 (IBM SPSS Statistics for Windows (Version 20) [computer software], 2011). For quantitative analyses an alpha level of .05 and a power level of .80 was adopted for these tests to achieve medium effect size (Cohen, 1988). Descriptions and power analyses for each analysis are discussed below.

Qualitative Data Analysis

Content analysis. Qualitative analyses were focused on responses to open-ended questions and analyses used as many participant responses as possible until saturation was reached. Saturation occurs when new categories and themes stop emerging from data (Marshall, 1996). Qualitative research criteria for case sampling include the following: relevance to research question; likelihood of generating ‘thick description’ of phenomena; enhancement of generalizability of findings; production of believable descriptions; ethicality (informed consent); and, feasibility (Curtis, Gesler, & Smith, 2000). In order to ensure that the case sampling met these criteria, responses from 285 participants were analyzed. When possible determination of the sample size should be guided by the potential for the sample to provide a rich understanding of a phenomenon (Sandelowski, 1995), and the appropriate sampling size is attained when new themes or categories stop emerging (data saturation; Marshall, 1996). As such qualitative sampling requires a flexible approach (Marshall, 1996). After data saturation, analyses continued in order to assess the frequency in which themes occurred.

Data analyses were based on the Grounded Theory method, which allows derivation of coding categories and theory directly from text (Hsieh & Shannon, 2005). The Grounded Theory analytic approach requires the construction of theoretical formulations based on data (Strauss &

Corbin, 1998). Data were analyzed by this writer. Consistent with the Grounded Theory method of analysis, this study constructed analytic codes, which are words or short phrases that identify attributes from text (Saldana, 2009), and used the constant comparative method, a process of comparing codes across responses to organize codes into themes (Charmaz, 2006; Strauss & Corbin, 1998). Content analysis is the subjective interpretation of text (Hsieh & Shannon, 2005), and the goal of content analysis is “to provide knowledge and understanding of the phenomenon under study” (Downe-Wamboldt, 1992, p. 314). As such, data were coded as described below to gain understanding of suicide attitudes among African immigrants.

Data analysis was conducted based on elements of qualitative analytic approach by Charmaz (2006). According to Charmaz three methods of data coding in Grounded Theory involve open coding, focused coding, and theoretical coding. With open coding, the aim is to define and identify information in text. To do this codes were generated based on action words, nouns ending with “ing,” and participant words. Rather than using a line-by-line data analysis, the unit of analysis was incident-by-incident. Incident-by-incident (also known as segment-by-segment) is the recommended approach when the researcher did not personally interact with participants and involves developing codes based on incidents of responses to open-ended questions (Charmaz, 2006). An incident or segment is a paragraph of information on a specific question. Using the constant comparative method for each open-ended question, codes generated from one incident were compared to other incidents. This helped with the organization of codes and the generation of themes during focused coding.

Focused coding involved the evaluation of codes identified for each incident and then grouping the codes into categories (Charmaz, 2006). According to Strauss and Corbin (1998) categories can be developed by examining codes and considering themes that emerge from them.

Once codes have been aggregated into themes, analysis will proceed to theoretical coding. Theoretical coding ensures that categories are conceptually linked and form a coherent whole (Charmaz, 2006). The researcher assessed categories to ensure that they fit responses from participants and then develop a conceptual model for attitudes toward suicide among African immigrants.

Quantitative Data Analysis

Pearson correlation. In order to examine independence of, and associations between, age, sex, spirituality, religiousness, exposure to peer suicide, media exposure to suicide, exposure to family suicide, suicidal behavior, social support, social class, acculturation, ethnic identity, attitudes toward suicide, mental health (depression, anxiety, stress, and culture oriented psychological distress), and help-seeking behavior, bivariate analyses were conducted, using Pearson's product-moment correlation coefficients. Correlations greater than the recommended cutoff score of .80 suggest that multicollinearity is likely to exist (Katz, 2006); none of the variables in this study met the multicollinearity cutoff.

Multiple regression. To test the ecological predictors of attitudes toward suicide, five separate regression analyses were conducted at both the unadjusted α -level (.05) and at Bonferroni's adjusted α -level (.05/k), where k is the number of predictors in the model. Because numerous predictors were used in the multiple regression models, the Bonferroni adjustments provided control for the overall Type I error rate (Mundfrom, Perrett, Schaffer, Piccone, & Roozeboom, 2006). The first model examined nine individual level characteristics (age, sex, education level, spirituality, religiousness, suicide behavior history, depression, anxiety, and stress) as predictors of attitude toward suicide. The second model examined microsystem predictors (exposure to peer suicide, exposure to family suicide, and marital status) of attitudes

toward suicide. The third model investigated mesosystem predictors (social class and perceived social support) of attitude toward suicidal behavior. The fourth model examined an exosystem predictor (media exposure to suicide) of attitude toward suicide. Finally, the fifth model examined macrosystem predictors (ethnic identity and acculturation) of attitude toward suicide. All models were entered using forced entry method (Field, 2009).

In order to estimate the sample size needed to decrease Type I error (α) and Type II error (β), power analyses were conducted based on equations provided by Green (1991) and Tabachnick and Fidell (2007). For regression analyses, they suggest that in order to determine an adequate sample size necessary for medium effects, $\alpha = .05$, and $\beta = .20$, the rule of thumb are $N \geq 50 + 8m$ for testing multiple correlations and $N \geq 104 + m$ for testing individual predictors (m refers to the number of independent variables in each model).

As such, for model one with the most number of predictors, a minimum of 122 cases was needed to test for regression [$50 + (8 \times 9)$] and a minimum of 113 cases was needed to test individual predictors ($104 + 9$) (Green, 1991). Because model one has the largest number of predictors, the minimum sample size needed for this study was 122.

Mediation. To test mediation hypotheses, parallel multivariable and simple mediation analyses, consistent with and using macros developed by Preacher and Hayes (2008a), were used; mediators were assessed for their individual effect as well as their contribution to an overall mediation model. Parallel multiple mediation models allow for one independent variable (IV), one dependent variable (DV), and more than one mediator variable (MV). Because only one IV and one DV per model is allowed, to test H5 two mediation models assessed the potential mediating effect of suicide attitudes (Suicide Attitude Scale Total Score, MV) on the relationship between acculturation (identification with culture of origin and identification with host culture;

IVs) and attitudes toward professional help (DV) (see Figure 2). To test H6 one mediation model was conducted assessing the mediating effect of mental health (depressive symptoms, anxiety symptoms, perceived stress, and suicidal behavior MVs) on the relationship between spirituality (IV) and suicide attitude (Suicide Attitude Scale, DV) (see Figure 2). To test H7, one mediation model assessing the potential mediating effect of mental health (depressive symptoms, anxiety symptoms, perceived stress, and suicidal behavior MVs) on the relationship between religiousness (IV) and suicide attitude (Suicide Attitude Scale Total Score; DV) was analyzed (see Figure 3). In each model variables not entered as IV or MV were controlled for, and in all models only sex was included as covariate because it was associated with dependent variables (suicide attitude and attitudes toward professional help).

Compared to Baron and Kenny's (1986) approach to mediation analysis, Preacher and Hayes's (2008a) mediation techniques use bootstrap resampling to calculate more accurate analysis of indirect effects (Hayes, 2009; Preacher & Hayes, 2008b). Bootstrapping resampling provides an estimate of indirect effects and empirical approximations of the sampling distribution of an indirect effect, by resampling a study sample k times (at least 5000 times) and generating confidence intervals (CI's), that permit inferences about the size of the indirect effect (Hayes, 2009). The techniques can be used on nonnormally distributed data, and allow for indirect effects without the presence of direct effects. Also, the bootstrapping method permits the detection of effects even when the sample size is small (Preacher & Hayes, 2008a).

In mediation a *total effect* (c) refers to the relationship between the IV and the DV without controlling for the MVs. A *direct effect* (c') refers to the relationship between the IV and the DV after controlling for the MVs. A *total indirect effect* (ab) refers to the role of all MVs in

the relationship between an IV and a DV. A *specific indirect effect* (a_1b_1 and/or a_2b_2) refers to the role of a particular MV in the relationship between an IV and a DV (see Figures 3 and 4).

Mediation analyses can produce five different results: (i) total effect (c); (ii) direct effect (c'); (iii) *indirect effect only* (ab), whereby c and c' were not significant; (iv) *partial mediation*, whereby there is a decrease from c to c' and c' remains significant, and (v) *full mediation*, whereby there is a decrease from c to c' and c' falls out of significance (Preacher & Hayes, 2004) (see Figures 3 and 4).

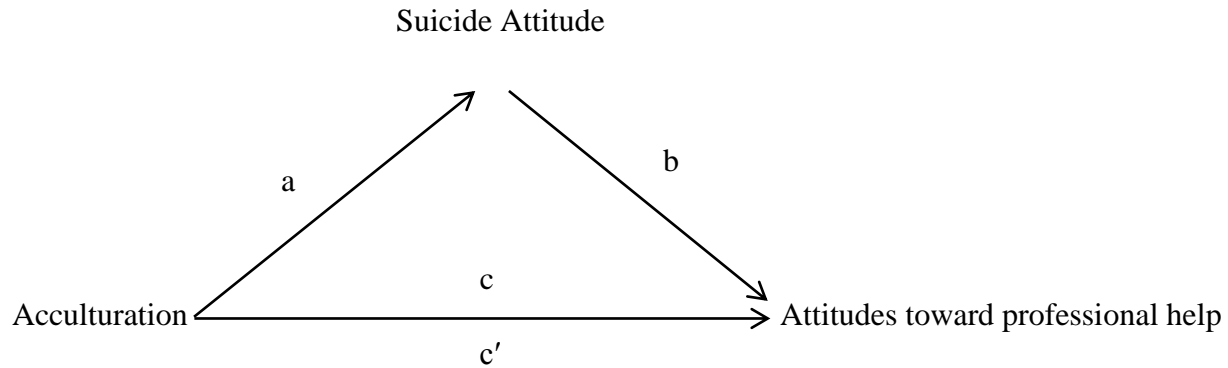


Figure 2. Illustration of an Indirect Effects Model for Acculturation and Attitudes toward Seeking Professional Help.

Note: c = total effect (acculturation affects attitudes toward professional help, without accounting for MV); c' = direct effect (acculturation affects attitudes toward professional help when accounting for MV or ab); ab = total indirect effect (acculturation affects attitudes toward professional help through suicide attitude); a = direct effect of acculturation on suicide attitude; b = direct effect of suicide attitude on attitudes toward professional help. Adapted from Preacher and Hayes (2008a).

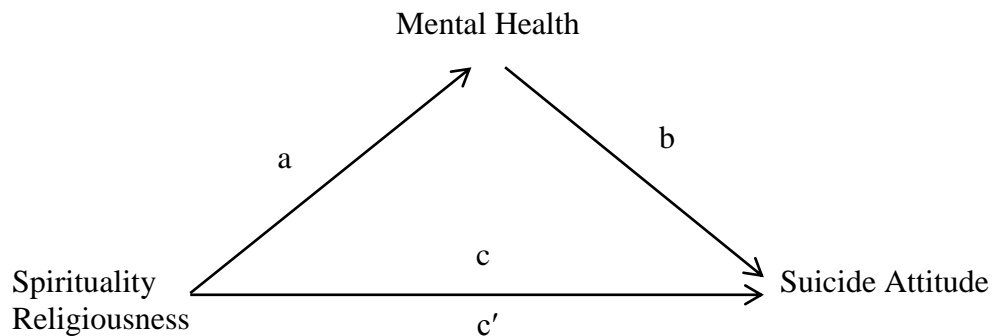


Figure 3.

Illustration of an Indirect Effects Model for Spirituality and Religious on Suicide Attitude.

Note: c = total effect (spirituality and religiousness affects suicide attitudes, without accounting for MVs); c' = direct effect (spirituality and religiousness affects suicide attitudes when accounting for MVs or ab); ab = total indirect effect (spirituality and religiousness affects suicide attitudes through mental health); a = direct effect of spirituality and religiousness on mental health; b = direct effect of mental health on suicide attitude. Adapted from Preacher and Hayes (2008a).

CHAPTER 3

RESULTS

Demographics

The sample of this study was comprised of 168 African immigrants to the United States, ranging in age from 18 to 68 years old ($M = 28.45$; $SD = 8.26$). Of the sample 94 were male (56%), 70 were female (41.7%) and 4 did not respond (2.4%). The majority identified as single ($n = 96$, 57.1%), 46 as married (27.4%), 17 as currently dating (10.1%), 4 as engaged (2.4), and 5 did not respond (3%). All participants self-identified as African, with the majority of respondents identifying as Western Africans ($n = 101$, 60.1%), 24 as Eastern Africans (14.3%), 22 as Central Africans (13.1%); 14 as Southern Africans (8.3%), 6 as Northern Africans (3.6%), and 1 did not respond (.6%). One hundred sixty-seven participants indicated that their parents were African (99.4%), and 1 participant (.6%) did not respond. Age upon first entry into the United States ranged from 1 to 50. The majority of participants stated they were not at all Americanized (71, 42.3%), 63 reported being a little Americanized (37.5%), 18 were about half Americanized (10.7%), 11 were mostly Americanized (6.5%), 4 completely Americanized (2.4%), and 1 did not respond (.6%). Concerning level of education, 13 had a high school diploma (7.7%), 26 reported some college experience (15.5%), 7 had an associate or 2-year degree (4.2), 55 had earned a bachelors or 4-year degree (32.7%), 53 had a master's degree (31.5%), 3 had a professional degree (1.8%), 10 had a doctorate degree (6%), and 1 did not respond (.6%). Examining employment status, 101 participants reported they were students (60.1%), 49 were employed either full time or part time (29.1%), 12 reported they were unemployed (7.1%), 1 reported being a homemaker (.6%), 2 were retired (1.2%), and 3 did not respond (3%). Regarding plans for residence in the United States, 66 indicated that their plans were temporal

(39.3%), 51 reported their plans were permanent (30.4%), 48 were uncertain (28.6%), and 3 did not respond (1.8%). As concerns living condition, 66 individuals reported living with a roommate(s) (39.3%), 41 live alone (24.4%), 33 live with a significant other (19.6%), 26 live with a parent or family member(s) (15.5%), and 2 did not respond (1.2%). Most participants reported having good insurance coverage (78, 46.4%), 56 had minimal insurance coverage (33.3%), 32 had no insurance coverage (19%), and 2 did not respond (1.2%). The majority of the sample identified as Protestant (n = 86, 41.7%; e.g., Christian and Pentecostal), 40 identified as Catholic (23.8%), 8 identified as Muslim (4.8%), 10 preferred not to say or indicated no religious affiliation (6%), 3 did not respond (1.8%), and the remainder of participants identified either as Seventh Day Adventist, African Traditional Religion, Jehovah's Witness, Buddhist, or other.

Qualitative Results

Qualitative reports for seven different sections of inquiry were analyzed to identify concepts and their frequency of occurrence. Concepts were then grouped into coded themes, and the coded themes were classified into categories. Some representative quotes are presented for the different sections, categories, and coded themes.

Section 1: Working with a Suicidal Person

“I would talk to them. Not convince them not to do it but just talk to them about why.

And if I see something that they can't I would point it out. But I would not treat them like they are stupid for wanting to kill themselves.”

Connectivity. Many African immigrants noted the importance of connecting a suicidal person to resources (n = 125) (see Table 1). As noted by a participant, “...find all the necessary help they need.” Connecting suicidal persons with professional help was the most reported type of referral. Referring a suicidal individual to mental health services was commonly expressed

and the least number of participants indicated the role of a medical intervention. Informing family members was deemed necessary as was the potential for involvement of law enforcement and/or authority figures. Additionally, some participants indicated they would connect the individual to a help line.

Provide personal counsel. Most participants (n = 118) indicated a willingness to provide personal counseling to a suicidal person and identified the importance of talking to the individual. As stated by a participant: “I would spend more time and talk often. Conversation is therapy in our African society, and that explains why we have very little suicidal rates because of the support system from family and friends, which is part of our culture.” Some participants reported the intention to “talk them out of” suicidality and different strategies for doing so were revealed from narratives. One strategy involved use of wisdom: “get some sense into his/her head.” A second strategy involved challenging, by attempting to make a suicidal person “understand suicide is not the best option for a solution.” Another strategy involved the belief that participants could provide alternative solutions to the problems of a suicidal person. The importance of making a humane connection with the suicidal individual was identified: “show much love to the person encouraging a positive attitude;” as well as the encouragement of a positive attitude: “make him know that they have a great life ahead. That whatever they are going through at that moment is temporary and will be over before they know it. Encourage to look at life as blessing, not punishment.” A very small number of respondents indicated they would do nothing (n = 3) or that they did not know what to do (n = 3).

Spirituality and religion. Participants indicated the importance of the role of spirituality/religion in supporting a suicidal person (n = 19). Some African immigrants communicated they would provide support by praying for the suicidal person. In situations

whereby mental health resources are unknown, religious coping was identified as a resource: "... refer the person to the Pastor first; but that is because I don't know any mental health professional in the community." Additionally, the use of God in providing personal counseling was mentioned as a strategy to help a suicidal person:

"There is nothing I can do when the act has already been done but if I know before I will try to tell the person what God says about that and let the person know that God loves him/her so much that he/she does not have to do that."

Emotional reaction. Although the majority of African immigrants in this study indicated a focus on things that can help a suicidal person, some focused on personal reactions ($n = 10$), such as their own emotional responses and how suicidal persons would affect them. Emotional responses included: "feel pity for them that they didn't talk to someone or get help;" "I will feel so sorry for him;" "I'd be very disturbed about it;" and "it will cause me so much pain."

Table 1

List of Coding Concepts for Attitudes Toward Working with a Suicidal Person

| Category | Coded Theme | Frequency | Illustrative Responses |
|-----------------------------|--|-----------|---|
| Connectivity | Professional Help/Mental Health Provider | 67 | “Urge them to seek counselling.” “...getting someone else's help or advice, specialized in counselling victims of such thought.” |
| | Medical Help | 3 | “Tell him to seek medical intervention.” |
| | General referral for help | 37 | “I would try to get them as much help as I can so I don't lose them.” |
| | Inform law enforcement/authorities | 12 | “I will inform my law enforcement agency” |
| | Connect to a hotline | 4 | “Try get them to call a suicide hotline...” |
| | Call 911 | 2 | “Try to stop them and also call 911” |
| Provide Personal Counseling | Talk | 60 | “I will help to talk to them to stop” |
| | Talk them out of it | 30 | “Telling them how detrimental it is to their soul.” |
| | Humane | 5 | “Talk to them about it. Treat them with respect and be gentle about it.” |
| | Positive attitude | 5 | “help them to look at things positively” |
| | Solution | 6 | “talk to the person, and provide a solution to what the problem may be” |
| | Information Gathering | 6 | “I would investigate and learn more” |
| | Nothing | 3 | “I would continue with life” |
| Emotional Reaction | Don't know | 3 | “I really do not know.” |
| | Pity; Sad Hurt; Disturbed Frustration Upset | 10 | “Obviously, I would feel very petrify and somehow uncontrollable. Just the mention of thoughts about suicide brings so much chill to my bones. What about someone I know being suicide? There's absolutely no word to describe what I will do.” |
| Spiritual/Religion | Prayers/religion | 19 | “Prayer is always needed. God can change the heart of a person, not us.” |

Section 2: Perceived Reactions of Others toward a Suicidal African

“Depends on what part of the country the person was from ... But going off the Nigerian experience, it's a bit of a taboo subject. People would understand but the highly religious ones might judge you for committing a sin. There's an overall callousness towards suicidal people in general in Nigeria, in my opinion - either you're simply being dramatic or you're being cursed by juju, in which case you clearly need 'deliverance,' a la quack pastors and accompanying quack native doctors...”

Emotional response. A majority of participants perceived that people would have negative emotional responses upon learning that an African was suicidal ($n = 42$). The negative emotional responses included sadness, depression, and frustration and feeling worried, scared, ashamed, and angry (see Table 2); for instance, as one participant described: “in Africa others will be scared and helpless in the fact that there isn’t help available, except maybe getting friends and family members to talk to him/her.” Aside from the perceived negative emotional reactions, some African immigrants perceived that individuals may experience surprise or confusion. Sources of surprise may include lack of understanding, rarity, and the strangeness of suicidality; for example, “it would be quite surprising due to the fact that all of the Africans, I think I know are not suicidal, at least to the best of my knowledge. This is not a normal trend amongst African societies.” While concern was identified as another emotional reaction, some participants perceived that some individuals may be indifferent towards a suicidal African: “not so many people care about Africans that much. They are seen as less human so it won't make that much difference.” A few other respondents perceived that some Africans would also be indifferent because little attention is given to mental health issues: “They would care less. Africans tend to not give weight to psychological issues.”

Attitude toward suicidal African. Some members of the sample (n = 19) pointed out stigmatizing attitudes that may be directed towards a suicidal African, such as: “Africans are very hard on each other, and would feel that any suicidal person is weak and wants to take the easy way out.” Some reported condemning attitudes towards suicide, stating that suicide was an “abomination,” and a few respondents (n = 6) indicated that some individuals may prefer to isolate themselves from the suicidal person. Yet, some participants described that suicidal behavior by an African may be viewed as normal because of its ‘normality’ in the United States or because of negative stereotypes that people may hold towards Africans, as demonstrated by the following statements from two African immigrants: “Suicide in America means something different as compared to suicide in Africa. In Africa people would view it as taboo, here it is normal to see depressed individuals take their life,” and “racists and people who look down on Africans might think it is normal for Africans to be suicidal.”

Universal. Several participants (n = 19) expressed that reactions from others toward a suicidal African will be the same as that toward any other suicidal individual, irrespective of race or nationality. As described by one participant: “I am not sure there's a difference between an American and an African who's suicidal. Why would the perception be different if the act is the same? It's after all a person who wants to put an end to his/her life.”

Causation. Participants identified (n = 14) that people may consider the causes of suicidal behavior. Some identified causes included mental health issues, spiritual basis, and hardship. Within the theme of hardship, a small number of participants perceived that a possible cause may relate to the suicidal person being affected by their host culture: “if they are away from home ... the western world corrupted them.”

Table 2

List of Coding Concepts for Perceived Reactions of Others Toward a Suicidal African

| Category | Coded theme | Frequency | Illustrative responses |
|----------------------------------|---------------------------------|-----------|---|
| Emotional response | Sad/depressed | 21 | “Real bad, or depressed;” “It's hard to accept.” |
| | Frustrating/Devastated | 5 | “They will be frustrated too.” |
| | Worried/scared/horrified/afraid | 6 | “Worried, because we care about our friends enough. We have that communal sense of belonging” |
| | Ashamed/disgrace | 8 | “If it was other Africans they would feel ... ashamed ...” |
| | Angry/Contemptuous | 2 | “Very disgruntled because Africans are raised with spirit to overcome stress in the society” |
| | Surprised/confused | 18 | “Very surprised. You barely hear of an African being suicidal ...” |
| | Strange | 6 | “Weird because it's not as common;” “Weird, we very religious in Africa” |
| | Unusual | 3 | “Suicide is not typically associated with Africans. This would be seen as an isolated incident” |
| | Lack of understanding | 7 | “They would not understand” |
| | Concern | 16 | “Even though, it's very unusual/almost never that an African could be suicidal but if that could happen, I guess people would try and get enough help ...” |
| | Indifference | 11 | “Unless ‘others’ were also Africans, family members, or close friends, I doubt that they'd care.” “most Americans do not feel sorry for foreigners.” |
| Attitude toward suicidal African | Negative perception | 19 | “People could probably make fun of the person as being spineless.” |
| | Condemn/taboo | 8 | “African culture generally abhors suicide” |
| | Isolate from | 6 | “I would advise them to move back to Africa” |
| | Normal | 8 | “... some think it's normal after all Americans are doing it every day but it's always considered a shame (taboo) in Africa;” |
| Uncertain | Don't know | 28 | “People have different reactions to issues, but I think someone's reaction will depend on the person's view on suicide and Africans.” |
| Universal | No difference between races | 19 | “People all over the world are suicidal. There's nothing different about an African being suicidal. People would probably feel the same as if any other person was suicidal.” |
| Causation | Mental health | 3 | “they might think he/she has mental health issues I would say” |
| | Spiritual cause | 6 | “Africans are usually superstitious about suicide so people would feel it has spiritual connotations.” |
| | Hardship | 5 | “I really don't know probably relate it to ... not able to fend for themselves.” |

Section 3: Attitudes for or against Suicide Prevention

“I'm definitely for suicide prevention because if we truly can identify someone's misery and frustrations and can actually be of helping hand to them, they may become empowered, motivated and productive citizens of the society and everyone benefits.”

Life preservation. Most of the participants (n = 104) reported that the idea of saving lives was an important reason for suicide prevention; as illustrated by one participant, “I'm for suicide prevention because every human soul deserves to be preserved.” A common attitude was that there are solutions to difficult problems: “I am for suicide prevention because most of those committing suicide need help and if we can prevent that by offering some solutions that will be great.” Another popular perception was that difficult lives can be improved and suicidal individuals need the opportunity to change things because people should get “... a shot at fixing things in this life despite the misfortunes someone may have gone through.” The third most-popular response reflected the attitude that there is hope in life: “So long as one breathes, there is always hope ...” Finally, a few participants expressed that the provision of support was necessary to saving lives, and that suicide prevention was simply the wise thing to do. Of note, although the majority of respondents supported suicide prevention efforts, a few reported being indifferent.

Benefits. The benefits of preventing the loss of human lives was noted by many African immigrants in this sample (n = 23), who pointed out the beneficial effects of human life toward maintaining productivity in society: “I am for suicide prevention because the world is bound to lose a lot of human capital if people are allowed to take their own lives.” Some participants reported that suicide prevention is beneficial because it prevents negative effects on families or loved ones: “it makes the little ones think it is a good thing to do, so they end up wasting the life God gave them to

live and enjoy.” Only two participants challenged the notion of suicide prevention being beneficial, by reporting possible cost effects and risk (see Table 3).

Promote life. Separate from the idea of saving lives, was the perception that suicide should be prevented because life has value and a purpose; for instance, several participants mentioned that human life has worth and the role of promoting life so people can achieve personal goals. Some participants expressed that suicide prevention for African immigrants should include encouraging self-worth: “If we want to prevent suicide, start by teaching the Africans the truths that has been disguised. The truth about themselves being able to achieve anything, the truth that they are not less human, the truth that media misguides them, the truth that slavery was not their fault because they didn't warrant that poor treatment.” A single participant indicated being against suicide prevention because individuals have the right to make personal decisions.

Religion. Religion-based reasons were offered for suicide prevention (n = 13), including that people should live by religious standards and that the prevention of suicide keeps suicidal individuals from being punished by a higher being. For instance, “helping someone avoid suicide would mean saving him/her from the wrath of God.” An additional religious reason for suicide prevention included a humanitarian effort to prevent sin and its effects: “with or without Christ in you, God will punish every sin.”

Table 3

List of Coding Concepts for Attitudes for or against Suicide Prevention

| Category | Coded theme | Frequency | Illustrative responses |
|-------------------|---------------------------|-----------|---|
| Life preservation | Save lives | 40 | "I believe a life is sacred, and since we do not choose to come on this earth, nobody including ourselves should put an end to any life at all. Suicide prevention should exist for that, to protect human life." |
| | Positive outlook | 14 | "People who consider suicide an option should be taught that there is hope." |
| | Solutions available | 22 | "I am for it because it shows people there might be a different alternative" |
| | Life Improvement | 28 | "Suicide prevention could improve people's lives and stop needless tragedy" |
| Benefits | Benefit to others/society | 11 | "They may become empowered, motivated and productive citizens of the society and everyone benefits." |
| | Effect on family | 12 | "Suicidal people tend to think of just themselves and forget the people they will leave behind, and sometimes these people reallyyyy need them." |
| | Risk | 1 | "Suicide prevention can lead people to suicide instead. Just because someone said they considered suicide does not mean they are going to do it." |
| | Cost | 1 | "I am against, because it is very costly" |
| Promote Life | Purpose in life | 5 | "Everyone of us are created for a purpose." |
| | Life value/worth | 15 | "There are so few great talent/potential/wonderful people in the world, a shortage of them you might say and it'd be a shame to kill off that potential before it ever has a chance to kick ass in the world." |
| | Right to suicide | 1 | "it is personal and cannot be prevented anyways" |
| Religion | Religious standards | 9 | "Because humans are entrusted by Allah of their body. They just can't do anything they please." |
| | Stopping sin | 4 | "I am for it because it's about stopping one from committing a heinous sin." |

Section 4: Attitudes toward Suicide

Hardiness. There were far more participants with a negative attitude toward suicide ($n = 196$) than those who expressed support for suicide ($n = 3$). A sense of hardiness was the most popular attitude African immigrants expressed towards suicide: “It's hard for me to picture the fact that people get to kill themselves.” Participants reported that suicide was not an option in life and indicated surprise at the fact that some individuals consider it. Some participants ($n = 19$) also reported that suicide was something they do not think about. Some African immigrants mentioned the pointlessness of suicide: “nothing in life is unbeatable,” and, as exemplified in this statement, “it's one of those efforts in futility that removes you from the equation without really changing your environment's general equilibrium, so to speak.” Some participants perceived that suicide was not a solution, and the commitment to live life without giving up was also expressed: “Hell no! I will die only when God calls me home” (see Table 4).

Stigmatizing attitude. A sizable number of participants ($n = 38$) reported condemning attitudes toward suicide, with one participant stating that “suicide is taboo where I come from and is looked upon as an abominable thing to happen to a family.” The moral perception that suicide was bad or “immoral” was also reported, and the action of suicide was identified as a selfish, evil, “unforgiveable,” and sinful act; as an example, a participant stated “people mustn't commit suicide, because the Koran and Sunna (Prophet Muhammad's spiritual edicts) ban it.” Although a negative attitude toward suicide was reported by most participants, one respondent expressed that suicide was sometimes justifiable, and two respondents indicated that suicide was simply a choice, “it's a choice but has to be taken after thorough thought about it.” Although most participants spoke either negatively or positively about suicide, one participant pointed out that suicide was paradoxical because it required both strength and weakness.

Table 4

List of Coding Concepts for Attitudes Toward Suicide

| Category | Coded Theme | Frequency | Illustrative Responses |
|--------------|----------------------------|-----------|---|
| Hardiness | Don't think about it | 19 | "I do not even think about it." |
| | Not an option | 29 | "It should never be an option;" "I would not consider it because there are too many people that depend on me." |
| | Irrational | 10 | "I find it an irrational behavior" |
| | Unnecessary | 14 | "you can avoid the thinking" "not necessary" |
| | Not a solution | 19 | "Don't think it is the solution" |
| | Sign of giving up | 9 | "It is not an option because it means giving up completely and I'm a fighter." |
| Stigmatizing | Condemn/against | 38 | "I strongly condemn suicide" |
| | Bad/not right | 24 | "not a good thing" "It's a horrible thing" |
| | Self-fish act | 7 | "It is a selfish act and can be deterred" |
| | Sin | 10 | "suicide is a huge sin" |
| | Evil | 5 | "It's devilish" |
| | Justified | 1 | "I think on some occasions, it is justified." |
| | Choice | 2 | "It carries such a negative connotation for no reason. Choosing to die is exactly that ... a choice." |
| | Paradox | 1 | "I think it is paradoxical as it takes both cowardice and bravery to do it. People with suicidal thought should seek help." |
| | Serious/Need for education | 3 | "Very serious issue that we do not discuss enough" |

Section 5: Perceived Causes of the Suicidal Behavior of an African Immigrant

Social cause. A majority of participants (n = 85) indicated that a possible cause of suicidal behavior among African immigrants involved difficulties that radiate from social factors, such as discrimination or racism, homesickness, loneliness, relationship difficulties, family problems, difficulties "fitting in," and bullying. The most reported social factor was discrimination or racism including "job discrimination" and "social discrimination," (n = 29) and the second most reported problem was loneliness (n = 24). With regard to family problems, a participant stated that "lack of support from family that is far from the United States could be ..." a risk factor for suicidal behavior.

Financial. Financial constraints were reported as a potential risk factor for suicide (n = 55). Some African immigrants mentioned its strain on life in the United States, whereas others mentioned the financial strain of supporting family members or dealing with unsettled financial issues in Africa. As one participant described: “if someone borrowed lots of money to get here thinking it will be easy to work and pay their lender after a few months in the US, and now it’s so hard to even get a job, such a person might think of suicide.” Additionally, the stress from unemployment was also identified: “not able to get a job to support their family back home and here in the US.”

Stress. On more general terms, the experience of stress was reported by many participants (n = 42) as a potential risk factor; for instance, a participant reported that “too much pressure trying to earn a living” could be a possible cause of suicidal behavior. Stress from experiencing a loss was also identified, as was stress from unmet needs that included poor housing and lack of everyday resources.

Poor achievement. The failure to achieve goals set prior to migrating to the United States was expressed as a potential risk factor for suicidal behavior. Dealing with illegal actions that result in deportation was also identified as a risk factor: “when faced with a crisis such as threatened deportation, arrest for any reason perceived as humiliating.” Independent of the consequences of poor goal attainment, the emotional experience of shame was also expressed as a risk factor.

Intrapersonal. The experience of a mental illness was mentioned as a potential cause of suicidal behavior (n = 31), and the only mental illness mentioned was depression (n = 11). One participant indicated that drug abuse may be a cause, and a few respondents (n = 4) mentioned that coping with a medical condition could be a risk factor. Personal factors including poor self-

esteem, identity crisis (e.g., “lost identity with his culture or background”), poor help seeking behavior, lack of a sense of purpose, and lack of religion were indicated as suicide risk factors.

Acculturation. The process of acculturating to the United States culture was reported as a potential risk factor, including culture shock and “difficulty assimilating,” which refers to difficulties adopting United States values. For example, as stated by one participant, “culture shock, there is more social interaction back in Africa than in USA. Another reason could be the high expectation toward life in USA, but when they arrive in USA, life is not as easy as you imagine, hard to find jobs ...” Worth mentioning, one participant stated that over-absorption of the American culture could be a risk factor.

Immigration Stress. Stressors that emanate from immigrating into the United States and maintaining legal status were reported as risk factors. A participant stated that the “inability to ever feel ‘at home’ due to continual changes in immigration law while in the States, and continual negative changes at home, leaving one feeling stranded,” was a risk factor. Some African immigrants mentioned the lack of immigration or legal status documentation as a probable trigger for a suicidal attempt.

Hardiness. There were some participants who maintained the stance that a suicidal attempt was impossible among African immigrants and that nothing could cause it. As described by a participant: “Africans to me are very strong-witted. We rather prefer to sort things out than commit suicide ... despite our faults; it is really hard for an African to commit suicide over something.”

Supernatural. Of importance to note despite its rarity was the report of supernatural factors. Only one participant stated that witchcraft was a possible risk factor. However, spiritual factors were reported in previous sections.

Table 5

List of Coding Concepts for Perceived Causes of the Suicidal Behavior of an African Immigrant

| Category | Coded theme | Frequency | Illustrative responses |
|---------------------|---------------------------|-----------|---|
| Social cause | Discrimination/racism | 29 | “lack of opportunities for African immigrants because of discrimination.” |
| | Homesickness | 10 | “Being away from family/support system” |
| | Loneliness | 24 | “Lack of warm human contact” |
| | Relationship issues | 5 | “Relationship failure” |
| | Family problems | 6 | “Bad marriage, living with unloving parents or relatives” |
| | Fitting in | 9 | “Lack of connection to the community in which he or she lives” |
| | Bullying | 2 | “Bulling from school or community” |
| Financial situation | Finances | 42 | “In debt back home and unable to pay.” |
| | Unemployment | 13 | “Helplessness due to unemployment” |
| General stress | Stress/Unmet needs | 38 | “Frustration;” “Life in the US is not easy;” “lacked of basic needs” |
| | Loss | 4 | “... in a situation where they lose everything they have worked for.” |
| Poor achievement | Failure | 16 | “International students ... kicked out of the program due to failure” |
| | Deportation/crime | 11 | “Deportation back to a war torn country” |
| | Shame | 4 | “Committing a very shameful act and getting caught” |
| Intrapersonal | Mental illness/Drug abuse | 7 | “Mental illness will cause an African immigrant ...” |
| | Depression | 11 | “Depression but it would be rare” |
| | Medical illness | 4 | “Life-threatening diseases ...” |
| | Personal Factors | 9 | “Inferiority Complex;” “Not finding the correct profession” |
| Acculturation | Adaptation | 16 | “The culture shock. It is not easy living in America.” |
| | Americanization | 1 | “Too much American influence about life ...” |
| Immigration stress | Immigration | 4 | “Strict immigration laws which makes life very difficult for immigrants” |
| | Lack of legal papers | 6 | “Lack of valid documents to stay in the US.” |
| Hardiness | Not possible | 10 | “Instead of committing suicide they would rather return to Africa” |
| Supernatural | Witchcraft | 1 | “Witchcraft” |

Section 6: Attitudes toward Suicide as a Crime

The attitude of African immigrants in this study towards suicide as a crime was mixed, with slightly more participants ($n = 80$) reporting that suicide was a crime, than not ($n = 73$). Some arguments to support suicide as a crime included: “I see no problem with [it] being a crime since every person legally belongs to their state;” “definitely a crime towards one's own family;” and “yeah I think it is a crime because it is avoidable.” Furthermore, another expressed that suicide is a crime, perhaps, due to religious reasons: “it is a crime and God will surely punish it too.” One participant mentioned that suicide should be considered a crime against instigators of a suicidal act: “I think if the actions of others could potentially be at the root of a suicide (e.g. bullying, sexual assault, etc.), those people should be charged with manslaughter at the very least.”

Table 6

List of Coding Concepts for Attitudes Toward Suicide as a Crime

| Category | Coded theme | Frequency | Illustrative responses |
|--------------------|-------------------------|-----------|---|
| Suicide as a crime | Not a crime | 73 | “If a person has attempted to commit suicide they must be given psychological help rather than face time” |
| | It is a crime | 80 | “It is a crime definitely because it is premeditated murder of a person, in this case yourself.” |
| Uncertain | Don't know/ not sure | 15 | “God gave us free will so everything is our choice, even suicide. Is the choice of suicide a crime? I do not know the bible well enough to back up religious claims that it is or isn't.” |

Attitudes against suicide as a crime included: “[it's] punishment already, why consider it a crime,” and “if there is a right to life, there has to be a commensurate right to death.” A respondent explained that: “it is utterly ridiculous to charge someone for wanting to kill themselves! In that case then people should be arrested for over eating or other ways of

mistreating their bodies.” Some participants expressed doubt about who would be brought to justice if suicide were a crime. A few participants were unsure of why or why not to consider suicide as a crime.

Section 7: Attitudes for or against Suicide

“... in the community that I lived in while in Ghana, suicide is greatly abhorred, even to the extent that one is denied a proper burial. For these and other reasons known to me, I hate suicide, even the sound of it.”

Religion and spiritual. In the current sample most participants indicated attitudes opposed to suicide based on religious or spiritual values ($n = 65$) and the view that suicide was a sin. For instance, a participant stated that: "this statement comes to mind, ‘Thou shall not kill.’ The Bible does not specify in Exodus 20 whether killing here means to kill others or yourself. Either way, both of them terminate life. And so killing violates God's commandment.” Another religious or spiritual reason against suicide involved the fact that humans lack life creation abilities (see Table 7).

Resilience. Similar to earlier themes of hardiness, reports against suicide included the attitude that suicide indicated a sign of weakness and that it was important to persevere through difficulties. A participant stated that: “storms come and pass so as problems come and pass.” Another participant indicated: “I see it as an ultimate sign of failure.” Participants indicated they were against suicide because it was a poor approach to solving problems and because many problems have solutions. As expressed by a participant to indicate that suicide was a poor problem solving approach: “you die in pain and yet your problems still remain unsolved.”

Positive orientation. Some African immigrants identified that they were against suicide because there were better days ahead and there is value in living. They reported a preference to

hold on to an optimistic view of the future; for example, "...hope for a better future." One participant reported it was important to "think of better past days." Many African immigrants indicated being against suicide because of the view that suicide is an act of self-deprivation, life is valuable, and that there is purpose in life: "... each human has to love his or herself so well that there is no reason why they have to commit suicide." Similar sentiments include: "people are here to live, struggle and improve and benefit the community. If everybody decides to put an end to his/her life then what would be the meaning of life?" and that by dying by suicide, "you deny yourself a second chance."

Social factors. The effect of suicide on other individuals was a reason African immigrants identified to support their attitude against suicide: "it affects family, community and society gravely." The negative effect of suicide on families was stressed. Some participants were against suicide because "it is selfish." Some participants reasoned against suicide from a moral basis, including the perception that suicide was "wrong" and "inhumane." A few participants indicated that individuals did not have the right to do away with their lives.

Acceptance of Suicide. Participants (n = 3) who reported indifference to suicide also indicated reasons why someone may want to engage in suicidal behavior, including personal choice, cost benefit analysis of living, stress relief, and destiny. A participant who reported being indifferent to suicide stated: "I am not for or against suicide. God knows better, I can't judge." Supporting personal choice, a participant expressed that: "it is the person's choice and he isn't harming anyone else, so he is free to do it."

Table 7

List of Coding Concepts for Attitudes for or against Suicide

| Category | Coded theme | Frequency | Illustrative responses |
|-----------------------------|------------------------|-----------|--|
| Religious/spiritual | Christian/God | 48 | "I'm a Christian i.e. my religion is against it." |
| | Sin | 11 | "I believe you will pay the ultimate penalty to God if you do that, which is eternal torment" |
| | Creation | 6 | "No one has the power to create life, therefore no one has the power to take away life" |
| Positive Orientation | Better future/optimism | 11 | "...hope for a better future" |
| | Better past days | 1 | "Think of better past days" |
| | Life is valuable | 17 | ".. plus nothing is worth killing yourself over." |
| | Purpose in life | 3 | "I think everybody is in this world for a purpose" |
| | Self-deprivation | 4 | "Life is too short; why make it shorter?" |
| Social factors | Affects others | 22 | "It hurts the loved ones of the person and hunts them for the rest of their lives." |
| | Self-centered/selfish | 6 | "Am against, because it's a selfish thing to do" |
| | Morality | 13 | "No justification for taking human life" |
| Resilience | Persevere | 15 | "... never appeared as an option to me" |
| | Weakness | 4 | "...consider any act of suicide as cowardice" |
| | Ineffective | 71 | "... issues can be negotiated and life can consequently be well lived" |
| Indifferent/ Pro-suicide | Right | 3 | "If they choose to end their life, then it is their right." |
| | Illness | 1 | "The only situation I am for is in terminally ill patients" |
| | Relief | 1 | "Suicide is good for the person who commits it because they feel relieved but we don't know if they actually feel relief because we don't understand what goes on the afterlife after one dies." |
| | Cost/benefit | 1 | "People do have justifiable reasons that shows that the cost of living outweigh the cost of being dead." |
| | Destiny | 1 | "I believe in destiny. If anyone dies by suicide, it was written in his/her books s/he was delivered." |

Quantitative Results: Associations Among Study Variables

Results of Pearson's Product Moment Correlation analyses indicated that hypotheses H2a, H2b, H2c, and H2d were partially supported (see Table 8). Higher levels of tolerant attitudes towards suicide were significantly negatively associated with integration ($r = -.16, p = .04$), separation ($r = -.17, p = .04$) and identification with African values and behaviors ($r = -.23, p = .003$), and were significantly positively associated with assimilation ($r = .24, p = .003$) and narrowly, positively associated with marginalization ($r = .15, p = .06$). Greater integration was marginally associated with lower levels of depressive symptoms ($r = -.14, p = .08$). Hypothesis H2e was partially supported; greater identification with African cultural values and behaviors, as measured by the Acculturation Index, was significantly negatively associated with anxiety symptoms ($r = -.19, p = .02$), depressive symptoms ($r = -.19, p = .02$), stress ($r = -.20, p = .01$), and culture oriented psychological distress ($r = -.19, p = .02$). Greater ethnic identity, as measured by the Multigroup Ethnic Identity Measure – Revised, was negatively associated with culture oriented psychological distress ($r = -.22, p = .006$).

Some findings not hypothesized that emerged from the data include: greater professional help seeking behavior was significantly associated with lower levels of tolerant attitudes toward suicide ($r = -.18, p = .02$), and greater levels of anxiety symptoms ($r = .18, p = .03$) and culture oriented psychological distress ($r = .18, p = .02$). Greater ethnic identity was negatively associated with assimilation ($r = -.22, p = .005$) and positively associated with separation ($r = .20, p = .01$). Higher levels of depressive symptoms were significantly positively associated with anxiety symptoms ($r = .61, p < .01$), stress ($r = .76, p < .01$) and culture oriented psychological distress ($r = .57, p < .01$).

Table 8.

Bivariate Correlations of Testing Hypothesis 1

| | 1.ATSPPH | 2.Anx | 3.Dep | 4.Stress | 5.MEIMR | 6.SAS | 7.PsyDis | 8.Assim | 9.Integ | 10.Marg | 11.Sep | 12.AfricID |
|-------------------------------|----------|--------|--------|----------|---------|---------|----------|---------|---------|---------|---------|------------|
| 1. ATSPPH – Professional Help | -- | | | | | | | | | | | |
| 2. Anxiety Symptoms | .180* | -- | | | | | | | | | | |
| 3. Depressive Symptoms | .065 | .606** | -- | | | | | | | | | |
| 4. Stress | .092 | .742** | .759** | -- | | | | | | | | |
| 5. MEIMR – Ethnic Identity | -.064 | -.014 | -.030 | -.081 | -- | | | | | | | |
| 6. SAS – Suicide Attitudes | -.181* | -.055 | -.027† | .043 | -.084 | -- | | | | | | |
| 7. Psychological Distress | .184* | .326** | .567** | .427** | -.220** | -.004 | -- | | | | | |
| 8. Assimilation | -.088 | .023 | .073 | .029 | -.220** | .238** | .052 | -- | | | | |
| 9. Integration | -.087 | -.104 | -.140† | -.104 | .089 | -.165* | -.115 | -.311** | -- | | | |
| 10. Marginalization | .041 | .080 | .088 | .094 | -.054 | .150† | .091 | -.220** | -.400** | -- | | |
| 11. Separation | .104 | -.046 | -.027 | -.015 | .199* | -.166* | -.070 | -.322** | -.285** | -.317** | -- | |
| 12. African Identification | .060 | -.185* | -.185* | -.198* | .258** | -.232** | -.193* | -.414** | .526** | -.561** | .446** | -- |
| 13. American Identification | -.040 | -.013 | -.052 | -.022 | -.090 | -.053 | -.019 | .241** | .609** | -.481** | -.373** | .262** |

Note. ATSPPH = Attitudes toward Seeking Professional Psychological Help Scale - Short Form; Anx, Dep, Stress = Depression Anxiety Stress Scale; MEIMR = Multigroup Ethnic Identity Measure – Revised; SAS = Suicide Attitudes Survey; PsyDis = Psychological Distress scale; Assim, Integ, Marg, Sep, AfricID, AmerID = Acculturation Index. * $p < .05$, ** $p < .01$, † $p < .10$.

Quantitative Results: Multivariable Statistics

Model of Individual Level Predictors of Suicide Attitude

It was hypothesized that a variety of individual level characteristics would predict lower levels of tolerant attitudes toward suicide and less perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems. Partially supporting this hypothesis, in a multiple regression model, with the simultaneous entry of age, sex, level of education, religiousness, spirituality, depressive symptoms, anxiety symptoms, stress, cultural psychological distress, and suicidal behavior: sex (being female) ($\beta = .24$, $t(124) = 2.95$, $p = .003$) and less spirituality ($\beta = -.33$, $t(124) = -2.81$, $p = .006$) significantly predicted a tolerant attitude toward suicide (see Table 9). In separate regression models testing independent effects, sex (femaleness) ($\beta = .20$, $t(153) = 2.46$, $p = .01$), low religiousness ($\beta = -.37$, $t(150) = -4.87$, $p < .001$), low spirituality ($\beta = -.37$, $t(149) = -4.93$, $p < .001$), and high suicidal behavior ($\beta = .22$, $t(152) = 2.75$, $p = .007$) significantly predicted a tolerant attitude toward suicide; age was a marginal predictor ($\beta = -.15$, $t(155) = -1.87$, $p = .06$).

In a multiple regression model, with the simultaneous entry of age, sex, level of education, religiousness, spirituality, depressive symptoms, anxiety symptoms, stress, cultural psychological distress, and suicidal behavior: education level ($\beta = .21$, $t(124) = 2.07$, $p = .04$) and suicidal behavior ($\beta = -.25$, $t(124) = -2.44$, $p = .016$) significantly predicted the attribution of suicide to interpersonal causes. In separate, independent regression models, education ($\beta = .16$, $t(156) = 2.16$, $p = .041$) significantly, and depressive symptoms ($\beta = .13$, $t(151) = 1.68$, $p = .09$) marginally, predicted the attribution of suicide to interpersonal causes.

In a multiple regression model, with the simultaneous entry of age, sex, level of education, religiousness, spirituality, depressive symptoms, anxiety symptoms, stress, cultural

psychological distress, and suicidal behavior: suicidal behavior ($\beta = -.22$, $t(124) = -2.14$, $p = .03$) significantly, and spirituality ($\beta = .23$, $t(124) = 1.75$, $p = .08$) and depressive symptoms ($\beta = .25$, $t(124) = 1.68$, $p = .09$) marginally, predicted the attribution of suicide to intrapsychic causes. In separate regression models, spirituality ($\beta = .16$, $t(148) = 1.94$, $p = .05$) significantly, and anxiety symptoms ($\beta = .13$, $t(151) = 1.66$, $p = .099$), depressive symptoms ($\beta = .14$, $t(151) = 1.75$, $p = .08$), and suicidal behavior ($\beta = -.15$, $t(150) = -1.89$, $p = .06$) marginally, predicted the attribution of suicide to intrapsychic causes.

In a multiple regression model, with the simultaneous entry of age, sex, level of education, religiousness, spirituality, depressive symptoms, anxiety symptoms, stress, cultural psychological distress, and suicidal behavior, female sex ($\beta = .16$, $t(124) = 1.79$, $p = .07$) marginally predicted the attribution of suicide to societal pressures. In separate regression models, no variable predicted the attribution of suicide to societal pressures.

Table 9

Multiple Regression Analyses of Individual Level Predictors of Suicide Attitude

| Variables | Multivariable Models | | | Independent Models | | | |
|--|----------------------|-------|---------|--------------------|------|---------|-------|
| | B | SE | β | B | SE | β | R^2 |
| Suicide Attitude | | | | | | | |
| Constant | 25.770 | 3.424 | | | | | |
| Age | -.068 | .057 | -.105 | -.086 | .046 | -.148† | .022 |
| Education | .361 | .291 | .111 | -.176 | .250 | -.056 | .003 |
| Sex | 2.350 | .789 | .238** | 1.840 | .748 | .195* | .038 |
| Religiousness | -.175 | .105 | -.194 | -.334 | .069 | -.370** | .137 |
| Spirituality | -.113 | .040 | -.330** | -.128 | .026 | -.375** | .140 |
| Anx Symptoms | -.062 | .206 | -.034 | -.096 | .144 | -.055 | .003 |
| Dep Symptoms | -.245 | .209 | -.158 | -.042 | .125 | -.027 | .001 |
| Stress | .319 | .240 | .194 | .069 | .134 | .043 | .002 |
| Psych Distress | -.352 | .235 | -.136 | -.009 | .207 | -.004 | .000 |
| Suicidal Behavior | .076 | .210 | .033 | .510 | .185 | .219** | .048 |
| $R = .545$; $R^2 = .297$; <i>Adjusted</i> $R^2 = .240$ | | | | | | | |

Table 9 (continued)

| Variables | Multivariable Models | | | Independent Models | | | |
|--|----------------------|------|---------|--------------------|------|---------|-------|
| | B | SE | β | B | SE | β | R^2 |
| Interpersonal Causes | | | | | | | |
| Constant | 3.376 | .477 | | | | | |
| Age | -.013 | .008 | -.155 | .001 | .007 | .008 | .000 |
| Education | .092 | .044 | .207* | .075 | .036 | .162* | .026 |
| Sex | .046 | .122 | .034 | -.029 | .109 | -.022 | .000 |
| Religiousness | -.014 | .016 | -.116 | -.001 | .011 | -.009 | .000 |
| Spirituality | .001 | .006 | .025 | .001 | .004 | .022 | .000 |
| Anx Symptoms | -.001 | .031 | -.003 | .017 | .020 | .069 | .005 |
| Dep Symptoms | .038 | .032 | .180 | .030 | .018 | .135 | .018 |
| Stress | -.006 | .037 | -.027 | .023 | .019 | .099 | .010 |
| Psych Distress | .015 | .036 | .042 | .035 | .029 | .097 | .009 |
| Suicidal Behavior | -.079 | .032 | -.249* | -.043 | .027 | -.129 | .017 |
| $R = .317$; $R^2 = .101$; <i>Adjusted</i> $R^2 = .028$ | | | | | | | |
| Intrapsychic Causes | | | | | | | |
| Constant | 2.876 | .704 | | | | | |
| Age | .010 | .011 | .087 | .005 | .009 | .049 | .002 |
| Education | -.073 | .060 | -.122 | -.033 | .048 | -.056 | .003 |
| Sex | .082 | .164 | .045 | .108 | .145 | .060 | .004 |
| Religiousness | .030 | .022 | .179 | -.013 | .014 | -.079 | .006 |
| Spirituality | .015 | .008 | .228† | .010 | .005 | .158* | .025 |
| Anx Symptoms | .028 | .042 | .086 | .044 | .026 | .134 | .018 |
| Dep Symptoms | .072 | .043 | .253† | .040 | .023 | .141 | .020 |
| Stress | -.030 | .050 | -.099 | .031 | .025 | .102 | .010 |
| Psych Distress | -.006 | .049 | -.012 | .032 | .039 | .067 | .004 |
| Suicidal Behavior | -.093 | .043 | -.218* | -.066 | .035 | -.153† | .023 |
| $R = .331$; $R^2 = .109$; <i>Adjusted</i> $R^2 = .038$ | | | | | | | |
| Social Pressure | | | | | | | |
| Constant | 3.384 | .493 | | | | | |
| Age | -.005 | .009 | -.052 | -.005 | .006 | -.065 | .004 |
| Education | .059 | .046 | .129 | .016 | .036 | .035 | .001 |
| Sex | .225 | .126 | .164† | .169 | .106 | .128† | .016 |
| Religiousness | -.019 | .017 | -.151 | -.013 | .010 | -.099 | .010 |
| Spirituality | -.003 | .006 | -.057 | -.005 | .004 | -.092 | .009 |
| Anx Symptoms | -.011 | .032 | -.044 | .006 | .021 | .022 | .000 |
| Dep Symptoms | -.012 | .033 | -.058 | .008 | .018 | .037 | .001 |
| Stress | .027 | .038 | .118 | .021 | .019 | .091 | .008 |
| Psych Distress | .031 | .037 | .085 | .017 | .029 | .048 | .002 |
| Suicidal Behavior | -.047 | .033 | -.145 | -.012 | .027 | -.037 | .001 |
| $R = .285$; $R^2 = .081$; <i>Adjusted</i> $R^2 = .007$ | | | | | | | |

Note: * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Suicide Attitude = Suicide Attitudes Survey; Interpersonal Causes, Intrapsychic Causes, Social Pressure = Attribution of Causes to Suicide Scale; Religiousness = Duke University Religion Index; Spirituality = Intrinsic Spirituality Scale; Table 9 (continued)

Anx Symptoms, Dep Symptoms, Stress = Depression Anxiety Stress Scale; Psych Distress = Psychological Distress scale; Suicidal Behavior = Suicidal Behaviors Questionnaire-Revised.

Model of Microsystem Level Predictors of Suicide Attitude

Partially supporting the hypothesis regarding the effects of microsystem level characteristics on tolerant attitudes toward suicide, in a multiple regression model, with the simultaneous entry of family suicide exposure, peer suicide exposure, suicide exposure by media, marital status, and employment: peer suicide exposure ($\beta = -1.28$, $t(148) = -2.62$, $p = .01$) significantly negatively predicted a tolerant attitude toward suicide (see Table 10). In separate regression models, independently, low peer suicide exposure ($\beta = -.24$, $t(157) = -3.16$, $p = .002$) significantly predicted a tolerant attitude toward suicide.

In a multiple regression model, with the simultaneous entry of family suicide exposure, peer suicide exposure, suicide exposure by media, marital status, and employment, no variable was a significant predictor of attribution of suicide to interpersonal causes. In separate regression models, independently, family suicide exposure ($\beta = .14$, $t(157) = 1.78$, $p = .077$) and peer suicide exposure ($\beta = .13$, $t(157) = 1.69$, $p = .09$) positively marginally predicted the attribution of suicide to interpersonal causes.

Table 10

Multiple Regression Analyses of Microsystem Level Predictors of Suicide Attitude

| Variables | Multivariable Models | | | Independent Models | | | |
|------------------|----------------------|-------|---------|--------------------|------|---------|-------|
| | B | SE | β | B | SE | β | R^2 |
| Suicide Attitude | | | | | | | |
| Constant | 29.637 | 4.156 | | | | | |
| Family Suicide | -.385 | .615 | -.052 | -.950 | .588 | -.128 | .016 |

| | | | | | | | |
|----------------|--------|------|---------|--------|------|---------|------|
| Peer Suicide | -1.275 | .486 | -.222** | -1.394 | .441 | -.245** | .060 |
| Marital Status | -.301 | .287 | -.084 | -.453 | .288 | -.127 | .016 |
| Employment | .299 | .317 | .075 | .480 | .318 | .121 | .015 |

$R = .290$; $R^2 = .084$; $Adjusted R^2 = .060$

Table 10 (continued)

| Variables | Multivariable Models | | | Independent Models | | | |
|--|----------------------|------|---------|--------------------|------|---------|-------|
| | B | SE | β | B | SE | β | R^2 |
| Interpersonal Cause | | | | | | | |
| Constant | 1.885 | .617 | | | | | |
| Family Suicide | .111 | .093 | .103 | .154 | .086 | .141† | .020 |
| Peer Suicide | .083 | .074 | .097 | .114 | .067 | .134† | .018 |
| Marital Status | .016 | .042 | .031 | .026 | .042 | .050 | .005 |
| Employment | .034 | .045 | .062 | .026 | .045 | .047 | .000 |
| $R = .175$; $R^2 = .031$; $Adjusted R^2 = .004$ | | | | | | | |
| Intrapsychic Cause | | | | | | | |
| Constant | 2.984 | .810 | | | | | |
| Family Suicide | -.007 | .122 | -.005 | .073 | .112 | .052 | .003 |
| Peer Suicide | .199 | .098 | .178* | .192 | .086 | .175* | .031 |
| Marital Status | -.043 | .056 | -.064 | -.029 | .055 | -.042 | .002 |
| Employment | -.039 | .060 | -.054 | -.063 | .058 | -.086 | .007 |
| $R = .195$; $R^2 = .038$; $Adjusted R^2 = .012$ | | | | | | | |
| Social Pressure | | | | | | | |
| Constant | 3.378 | .606 | | | | | |
| Family Suicide | -.019 | .091 | -.018 | -.003 | .086 | -.002 | .000 |
| Peer Suicide | .024 | .072 | .029 | .015 | .067 | .018 | .000 |
| Marital Status | -.014 | .042 | -.028 | -.015 | .040 | -.029 | .001 |
| Employment | .001 | .045 | .001 | -.003 | .044 | .006 | .000 |
| $R = .038$; $R^2 = .001$; $Adjusted R^2 = -.026$ | | | | | | | |

Note: * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Suicide Attitude = Suicide Attitudes Survey; Interpersonal Causes, Intrapsychic Causes, Social Pressure = Attribution of Causes to Suicide Scale; Family Suicide = Exposure to suicide of a family member; Peer Suicide = Exposure to suicide of a peer.

In a multiple regression model, with the simultaneous entry of family suicide exposure, peer suicide exposure, suicide exposure by media, marital status, and employment, only exposure to peer suicide ($\beta = .19$, $t(148) = 2.03$, $p = .04$) significantly predicted the attribution of suicide to intrapsychic causes. In separate regression models, independently, peer suicide exposure ($\beta = .17$, $t(157) = 2.22$, $p = .03$), significantly predicted the attribution of suicide to intrapsychic causes.

In a multiple regression model, with the simultaneous entry of family suicide exposure, peer suicide exposure, suicide exposure by media, marital status, and employment, no variable predicted the attribution of suicide to societal pressures. Similar results were observed in separate regression models with individual variables.

Table 11

Multiple Regression Analyses of Mesosystem Level Predictors of Suicide Attitude

| Variables | Multivariable Models | | | Independent Models | | | |
|--|----------------------|-------|---------|--------------------|------|---------|-------|
| | B | SE | β | B | SE | β | R^2 |
| Suicide Attitude | | | | | | | |
| Constant | 21.708 | 2.503 | | | | | |
| Social Support | -.024 | .101 | -.020 | -.028 | .099 | -.023 | .001 |
| Social Class – US | -.112 | .234 | -.043 | -.103 | .207 | -.040 | .002 |
| Social Class - Africa | .033 | .222 | .013 | -.019 | .198 | -.008 | .000 |
| $R = .046$; $R^2 = .002$; $Adjusted R^2 = -.018$ | | | | | | | |
| Interpersonal Cause | | | | | | | |
| Constant | 3.447 | .356 | | | | | |
| Social Support | -.006 | .014 | -.036 | -.006 | .014 | -.036 | .001 |
| Social Class - US | .022 | .033 | .060 | .003 | .030 | .008 | .000 |
| Social Class - Africa | -.033 | .031 | -.094 | -.029 | .029 | -.081 | .007 |
| $R = .098$; $R^2 = .010$; $Adjusted R^2 = -.010$ | | | | | | | |
| Intrapsychic Cause | | | | | | | |
| Constant | 4.378 | .457 | | | | | |
| Social Support | -.016 | .018 | -.070 | -.017 | .018 | -.076 | .006 |
| Social Class - US | .018 | .042 | .038 | -.022 | .039 | -.045 | .002 |
| Social Class - Africa | -.069 | .040 | -.149† | -.070 | .037 | -.150 | .022 |
| $R = .159$; $R^2 = .025$; $Adjusted R^2 = .006$ | | | | | | | |
| Social Pressure | | | | | | | |
| Constant | 3.481 | .358 | | | | | |
| Social Support | .002 | .014 | .010 | .001 | .014 | .006 | .000 |
| Social Class - US | .005 | .033 | .013 | -.012 | .030 | -.032 | .001 |
| Social Class - Africa | -.026 | .031 | -.072 | -.031 | .028 | -.086 | .007 |
| $R = .069$; $R^2 = .005$; $Adjusted R^2 = -.015$ | | | | | | | |

Note: * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Suicide Attitude = Suicide Attitudes Survey; Interpersonal Causes, Intrapsychic Causes, Social Pressure = Attribution of Causes to Suicide Scale; Social Support = Vaux Social Support Record; Social Class – US = Perceived social class relative to individuals in the United States; Social Class – Africa = Perceived social class relative to individuals in home country.

Model of Mesosystem Level Predictors of Suicide Attitude

In regression models, with the simultaneous entry of perceived social support and subjective social class relative to individuals in the United States and relative to country of origin, no variables were found to predict a tolerant attitude toward suicide, perception that suicide is caused by interpersonal factors and societal pressures (see Table 11). Perceived social class relative to individuals in one's home country marginally predicted the perception that suicide is caused by intrapsychic factors ($\beta = -.15$, $t(148) = -1.71$, $p = .09$).

Model of Exosystem Level Predictors of Suicide Attitude

In regression models, exposure to suicide via media was not found to significantly predict a tolerant attitude toward suicide, the perception that suicide is caused by interpersonal factors, intrapsychic, or societal pressures (see Table 12).

Table 12

Multiple Regression Analyses of Exosystem Level Predictors of Suicide Attitude

| Variables | Independent Models | | |
|--|--------------------|------|---------|
| | B | SE | β |
| Suicide Attitude | | | |
| Constant | 21.425 | .877 | |
| Suicide Media | -.057 | .077 | -.059 |
| $R = .059$; $R^2 = .003$; $Adjusted R^2 = -.003$ | | | |
| Interpersonal Cause | | | |
| Constant | 3.118 | .129 | |
| Suicide Media | .010 | .015 | .056 |
| $R = .062$; $R^2 = .004$; $Adjusted R^2 = -.002$ | | | |
| Intrapsychic Cause | | | |
| Constant | 3.347 | .127 | |
| Suicide Media | .000 | .011 | .003 |
| $R = .056$; $R^2 = .003$; $Adjusted R^2 = -.003$ | | | |
| Social Pressure | | | |

| | | | |
|---------------|------|------|------|
| Constant | .004 | .008 | |
| Suicide Media | .004 | .008 | .057 |

$R = .003$; $R^2 = .00$; *Adjusted R*² = -.006

Note: * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Suicide Attitude = Suicide Attitudes Survey; Interpersonal Causes, Intrapsychic Causes, Social Pressure = Attribution of Causes to Suicide Scale.

Table 13

Multiple Regression Analyses of Macrosystem Level Predictors of Suicide Attitude

| Variables | Multivariable Models | | | Independent Models | | | |
|--|----------------------|-------|---------|--------------------|------|---------|-------|
| | B | SE | β | B | SE | β | R^2 |
| Suicide Attitude | | | | | | | |
| Constant | 26.126 | 2.341 | | | | | |
| Ethnic Identity | -.026 | .096 | -.023 | -.097 | .093 | -.084 | .007 |
| African Culture | -.046 | .017 | -.232** | -.045 | .015 | -.232** | .054 |
| American Culture | -.003 | .017 | -.013 | -.011 | .016 | -.053 | .003 |
| $R = .243$; $R^2 = .059$; <i>Adjusted R</i> ² = .040 | | | | | | | |
| Interpersonal Cause | | | | | | | |
| Constant | 3.838 | .340 | | | | | |
| Ethnic Identity | -.032 | .014 | -.190* | -.026 | .013 | -.157* | .025 |
| African Culture | .002 | .002 | .079 | -.001 | .002 | -.025 | .001 |
| American Culture | -.004 | .003 | -.122 | -.003 | .002 | -.116 | .013 |
| $R = .200$; $R^2 = .040$; <i>Adjusted R</i> ² = .021 | | | | | | | |
| Intrapsychic Cause | | | | | | | |
| Constant | 3.630 | .441 | | | | | |
| Ethnic Identity | -.027 | .018 | -.127 | -.022 | .017 | -.102 | .011 |
| African Culture | .004 | .003 | .103 | .002 | .003 | .053 | .003 |
| American Culture | .002 | .003 | .049 | .002 | .003 | .039 | .001 |
| $R = .160$; $R^2 = .026$; <i>Adjusted R</i> ² = .007 | | | | | | | |
| Social Pressure | | | | | | | |
| Constant | 3.243 | .343 | | | | | |
| Ethnic Identity | -.010 | .014 | -.059 | -.010 | .013 | -.061 | .004 |
| African Culture | .001 | .002 | .024 | .001 | .002 | .025 | .001 |
| American Culture | .003 | .003 | .096 | .003 | .002 | .094 | .009 |
| $R = .121$; $R^2 = .015$; <i>Adjusted R</i> ² = -.005 | | | | | | | |

Note: * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Suicide Attitude = Suicide Attitudes Survey; Interpersonal Causes, Intrapsychic Causes, Social Pressure = Attribution of Causes to Suicide Scale; Ethnic Identity = Multigroup Ethnic Identity Measure – Revised; African Culture, American Culture = Acculturation Index.

Model of Macrosystem Level Predictors of Suicide Attitude

Partially supporting this study's hypothesis regarding the effects of macrosystem level characteristics on tolerant suicide attitude, in a multiple regression model with the simultaneous entry of American cultural identification, African cultural identification, and ethnic commitment/exploration, low African cultural identification ($\beta = -.23$, $t(152) = -2.73$, $p = .007$) significantly predicted a tolerant attitude toward suicide (see Table 13). Ethnic commitment/exploration significantly predicted belief in interpersonal causes of suicide ($\beta = -.19$, $t(153) = -2.27$, $p = .024$).

Quantitative Results: Mediation Statistics

Partially supporting the hypotheses of this study, greater identification with African values was significantly associated with a less tolerant attitude towards suicide ($a = -.04$, $p = .002$) and, less tolerant attitude towards suicide, was marginally associated with less professional help seeking behaviors ($b = -.10$, $p = .07$) (see table 14). The indirect effect of identification with African cultural values and behavior on professional helps seeking behavior was nonsignificant ($PE = .005$, $CI = -.0003$ to $.0135$).

Table 14

Indirect Effects of African and American Identification on Attitudes towards Help Seeking

| Effect | African Identification | | | American Identification | | |
|-----------|------------------------|------------|-------|-------------------------|------------|-------|
| | coeff | | | coeff | | |
| <i>a</i> | -.04* | | | -.01 | | |
| <i>b</i> | -.10† | | | -.11* | | |
| <i>c</i> | .010 | | | -.005 | | |
| <i>c'</i> | .004 | | | -.006 | | |
| | Point Estimate | BCa 95% CI | | Point Estimate | BCa 95% CI | |
| | | Lower | Upper | | Lower | Upper |
| <i>ab</i> | .005 | -.0003 | .0135 | .001 | -.0014 | .0073 |

Note. * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Suicide Attitude = Suicide Attitudes Survey; African Identification, American Identification = Acculturation Index; Attitudes toward Seeking Professional Psychological Help Scale - Short Form. *a*, *b*, *c*, and *c'* represent unstandardized

regression coefficient: a = direct effect of African identification and American identification on suicide attitude; b = direct effect of suicide attitude on attitude toward help seeking; c = total effect (African identification and American identification affects attitudes towards help seeking, without accounting for suicide attitude); c' = direct effect (African identification and American identification affects attitudes towards help seeking when accounting for suicide attitude or ab); ab = total indirect effect (African identification and American identification affects attitudes towards help seeking through suicide attitude); CI = bias corrected and accelerated 95% confidence interval with 5,000 bootstrap samples.

Table 15

Indirect Effects of Spirituality and Religiousness on Suicide Attitude

| | Spirituality | | Religiousness | | | |
|----------|---------------------------------|------------|---------------|----------------|------------|-------|
| Effect | coeff | | coeff | | | |
| | Anxiety Symptoms as Mediator | | | | | |
| a_1 | .004 | | .003 | | | |
| b_1 | -.07 | | -.13 | | | |
| | Depressive Symptoms as Mediator | | | | | |
| a_2 | -.03 | | -.013 | | | |
| b_2 | -.27† | | -.16 | | | |
| | Stress as Mediator | | | | | |
| a_3 | -.02 | | -.05 | | | |
| b_3 | .25 | | .20 | | | |
| | Suicidal Behavior as Mediator | | | | | |
| a_4 | -.06** | | -.15** | | | |
| b_4 | -.19 | | .19 | | | |
| c | -.14** | | -.35** | | | |
| c' | -.13** | | -.31** | | | |
| | Point Estimate | BCa 95% CI | | Point Estimate | BCa 95% CI | |
| | | Lower | Upper | | Lower | Upper |
| ab | -.0088 | -.0427 | .0151 | -.0348 | -.1304 | .0295 |
| a_1b_1 | -.0003 | -.0088 | .0037 | -.0003 | -.0173 | .0243 |
| a_2b_2 | .0074 | -.0022 | .0360 | .0021 | -.0118 | .0426 |
| a_3b_3 | -.0049 | -.0320 | .0031 | -.0096 | -.0792 | .0067 |
| a_4b_4 | -.0110 | -.0511 | .0098 | -.0276 | -.1257 | .0303 |

Note. * $p \leq .05$, ** $p \leq .01$, † $p \leq .10$. Religiousness = Duke University Religion Index; Spirituality = Intrinsic Spirituality Scale; Suicide Attitude = Suicide Attitudes Survey; Anxiety symptoms, Depressive Symptoms, Stress = Depression Anxiety Stress Scale; Suicidal Behavior = Suicidal Behaviors Questionnaire-Revised. a , b , c , and c' represent unstandardized regression coefficient: a = direct effect of religiousness and spirituality on mental health (anxiety symptoms, depressive symptoms, stress, suicidal behavior); b = direct effect of mental health (anxiety symptoms,

depressive symptoms, stress, suicidal behavior) on attitude toward suicide; c = total effect (religiousness and spirituality affects suicide attitude without accounting for mental health); c' = direct effect (religiousness and spirituality affects suicide attitude when accounting for mental health or ab); ab = total indirect effect (religiousness and spirituality affects suicide attitude through mental health); CI = bias corrected and accelerated 95% confidence interval with 5,000 bootstrap samples.

The direct effect between identification with American values and suicide attitude was nonsignificant, yet greater tolerant attitude toward suicide was significantly associated with less professional help seeking behavior ($b = -.11, p = .05$) (see Table 14). The indirect effect of identification with American culture on professional help seeking behavior through tolerant suicide attitude was nonsignificant, as the confidence interval was found to have a true zero (BCa 95% CI crosses zero). Significant total and direct effects for both identification with African values/behaviors and identification with American values or behaviors on professional help seeking behavior were not observed.

Significant total and direct effects for both spirituality and religiousness on suicide attitude were observed (see Table 15). In a mediation model with spirituality as the independent variable, spirituality had a significantly direct effect on suicidal behavior ($a = -.06, p < .001$), and depressive symptoms had a marginal direct effect on tolerant suicide attitude ($b = -.27, p = .09$). In the mediation model with religiousness as the independent variable, religiousness had a direct effect on suicidal behavior ($a = -.15, p < .001$).

CHAPTER 4

DISCUSSION

Attitudes toward suicide, whether accepting or condemning, can affect the manifestation of suicidal behavior and engagement in help seeking behavior and can have an impact on suicide prevention efforts (Renberg, Hjelmeland, & Koposov, 2008). Further, such attitudes and behaviors can be influenced by individual and ecological factors (Bronfenbrenner, 1979), including culture. For instance, Stack and Kposowa (2008) found a positive association between living in a nation with a higher rate of suicide and having a more-approving attitude toward suicide. Individual level characteristics such as personal mental health difficulties and history of suicide ideation and attempts may also affect attitudes toward suicide and help seeking behavior (Jeon, Park, & Shim, 2013; Kodaka, Inagaki, Yamada, 2013).

Despite such well-established associations, the mental health attitudes and behaviors of African immigrants are understudied (Eshun, 2006; Venters & Gany, 2011). As such, the current study used qualitative and quantitative measures to understand attitudes toward suicide, mental health functioning and help seeking behavior of African immigrants in the United States, from an ecological perspective.

In general, the sample in this study was similar to the population of African immigrants in the United States. Most respondents in this study were male (56%), corresponding with reports that there are slightly more male African immigrants in the United States than females (Ratha et al., 2011). Consistent with reports that African immigrants are skilled migrants with high levels of education (Capps et al, 2011; Ratha et al., 2011), only 7.7% of participants indicated having only a high school diploma, and 91.7% indicated having an associate degree or higher. This may however be related to sampling methods, as most study participants were solicited from college

campuses. Finally, the Immigration Policy Center (2012) has indicated that most African immigrants in the United States are from Western Africa and Eastern Africa and, in the current study, 60.1% of the participants were from Western Africa and 14.3% were from Eastern Africa.

Hypotheses

Hypothesis 1: Qualitative Exploration

As hypothesized, cultural perceptions about the origins of suicidal behavior, condemning attitudes toward suicidal behavior, referral of suicidal individuals to informal resources, and low levels of acceptance of suicide were observed. With regard to the origins of suicidal behavior, social factors, including discrimination or racism, homesickness, loneliness, relationship issues, difficulties “fitting in,” and bullying were the most frequently reported perceived causes, followed by financial difficulties such as low income and unemployment.

The findings of this study are consistent with previous research on African immigrants that indicates the role of socioeconomic and culturally-related variables including homesickness, as potential risk factors for poor mental health and suicidal behavior (Alpass et al., 2007; Saechao et al., 2012). Further, the report of social factors as contributors to suicidal behavior is consistent with the tenets of the Interpersonal Psychological Theory of Suicide, posited by Joiner and colleagues (2009), suggesting that interpersonal risk factors may be comparable and ubiquitous across cultures.

Additional identified contributors to suicidal behavior in the current study included stress, poor achievement of immigration goals, illnesses, and other individual-level factors such as self-esteem, identity crisis, and a lack of willingness to seek help. Such characteristics are similar to those found in previous studies; for instance, strong identification with achievement values is related to poor mental health among African immigrants (Idemudia, 2011), and lost dignity (or

loss of *face*), perceived social ineffectiveness, and poor social prospects have been associated with suicide in Uganda (Kizza, Knizek, Kinyanda, & Hjelmeland, 2012).

Respondents in this study also noted that individual-level yet culturally-relevant factors such as acculturation difficulties and stress related to immigration status may also be potential causes of suicidal behavior. These perspectives support previous findings that suggest African immigrants who experience discrimination or who have illegal immigration status may manifest poor mental health (Sevillano, Basabe, Bobowik, & Aierdi, 2014). However, relative to persons born in the United States, although risk for suicidal behavior is lower among immigrants prior to migration, risk often increases after migration (Borges, Orozco, Rafful, Miller, & Breslau, 2012), perhaps due to acculturation and immigration difficulties; future research is necessary to determine the unique contributions of both socio-cultural and individual-level characteristics, prior to and subsequent to immigration.

Finally, although there were reports of mental health difficulties as a contributor to suicidal behavior, such reports were less frequent in this sample. The most commonly identified causes of suicidal behavior can be categorized as external causes, thus supporting the notion that Africans focus on external contributors to psychopathology (Campbell-Hall et al., 2010). The findings of this study are similar to those in previous research with non-Western samples, suggesting that in the absence of a mental disorder, stressors such as financial difficulties are associated with suicide (Pridmore & Reddy, 2012); thus, risk for suicide may still be present among African immigrants even in the absence of intrapsychic distress. Inconsistent with reports that Africans perceive psychopathology to be caused by spirits and demonic factors (Mohamed, 2003; Nyagua & Harris, 2007), this was not a commonly identified causal factor in this sample, perhaps due to changes in beliefs and values resulting from adaptation to the cultural ideals of

the United States. The greater focus on perceived social contributions to self-harm behaviors has been previously observed in nonclinical samples and may decrease negative attitudes toward suicidal persons and increase help seeking to address the social ill (Straiton, Roen, Dieserud, & Hjelmeland, 2013). This has implications for the consideration of cultural factors rather than just biological factors in suicide prevention efforts (Hjelmeland, 2011).

Overall, the majority of African immigrants in this study reported stigmatizing and condemning attitudes toward, and low levels of acceptance of, suicide. Suicidal behavior was perceived as a sign of weakness and as irrational, and most respondents indicated that suicide was not an option. Reasons noted for low tolerance levels of suicide included religion or spirituality, having purpose in life, morality, the perception of suicide as selfish, interpersonal consequences such as the effect on others, and the ineffectiveness of suicide as a solution to the problems of life. This pattern of findings is similar to that found in a sample of Ghanaian residents for whom religious beliefs and need for family or communal harmony formed the basis for negative attitudes and objection toward suicide (Osafo, Hjelmeland, Akotia, & Knizek, 2011).

Emotionality, whether positive or negative, also accounted for many respondents' attitudes toward suicidal behavior. For instance, having a positive attitude toward life and a sense of overcoming hardship were related to low acceptance of suicide. Such emotional characteristics are reminiscent of other positive psychological factors such as vitality, or mental and physical energization, and positive problem orientation, or the belief that life problems are solvable (D'Zurilla, Nezu, & Maydeu-Olivares, 2004). Although positive problem orientation has not been previously linked to suicide attitude, it is associated with less risk for suicidal behavior (Chang, Yu, Kahle, Jeglic, & Hirsch, 2013); this has not been assessed quantitatively in

African immigrants, making the qualitative results of this study an important first step in this direction. Although we did not measure vitality directly in this sample, previous research suggests that vitality is greater in immigrants, including African immigrants, than in native individuals (Alpass et al., 2007), a phenomenon that may be capitalized on therapeutically.

Negative emotional responses to suicidal behavior were also commonly expressed, reflecting a low sense of approval of suicide. Specifically, negative potential reactions to a suicidal African immigrant included: pity, sadness, hurt, frustration, devastation, surprise, feeling disgrace or shame, and feeling scared. Consideration of the emotional reaction of individuals in response to a suicidal person is important, and emotional reactions such as fear or anxiety have been found to predict nontherapeutic behaviors (Demirkiran & Eskin, 2006). In fact, awareness of emotional reactions and attitudes toward a suicidal individual has been identified as an essential, core competency for assessing and managing suicide risk (Rudd, Cukrowicz, & Bryan, 2008). It should be noted that some respondents expressed that members of the nonimmigrant population would likely feel indifferent toward a suicidal African; as well, a few African immigrants reported that they, themselves, may be indifferent toward a suicidal African immigrant. A perceived lack of ability to hold a strong opinion (tolerant or not) on suicide has been observed to be common among individuals with more tolerant attitudes toward suicide (Hjelmeland et al., 2008). The perception of indifference and a lack of concern from others may promote a sense of isolation and may also deter help seeking behavior; as an example, among ethnic minorities, a perceived impassive approach to care from care providers has been associated with less use of health services (Scheppers, van Dongen, Dekker, Geertzen, & Dekker, 2006). Yet, some respondents in this study also noted that suicidal behavior should not be considered a criminal act because such acts may be an indication of the need for support or

psychiatric care or an expression of an individual's right to live and die (Yadwad & Gouda, 2005).

In general supportive attitudes toward suicide were uncommon, and most respondents condemned suicidal behavior, including voicing the perspective that suicide should be considered a crime. Similar to previous research on this topic, reasons given for criminalization of suicide included moral obligation to preserve the sanctity of human life, material value in human life and curtailing the effects of suicide on relatives (Adinkrah, 2013). Of note, in the current study the deterrence of suicidal acts was not offered as a reason for criminalization of suicide. The observation that arguments against the criminalization of suicide focus on the reasons for suicidal behavior, while arguments for suicide criminalization do not, are consistent with previous findings (Hjelmeland, Osafo, Akotia, & Knizek, 2013). Despite the predominance of intolerant attitudes toward suicide among African immigrants in this study, a few respondents reported some acceptance of suicidal behavior including sentiments similar to existing arguments for suicide, that suicide may be viewed as a means of insuring relief from a difficult life or illness, reducing medical and social expenditures, and personal right (Mishara & Weisstub, 2013). However, a unique concept in support for suicide was the idea that suicidal behavior is a destined behavior, perhaps in the philosophical context that humans do not have freedom of choice and that life is predetermined (Imbertson, 2012). For suicidal African immigrants, an exploration of personal explanations around reasons for considering suicide may be important for treatment planning.

Despite generally negative attitudes toward suicide, there was overwhelming support for suicide prevention efforts from African immigrant respondents in the current study. Reasons offered for suicide prevention included the importance of preserving human life because of the

potential for improvements in life, the benefits of an individual's life for the greater good of society and their relatives, the intrinsic value of a human life and adherence to religious values. Such differentiation in reasons for support of suicide prevention are common in previous research (Cantor & Baume, 1999). However, this has not been previously assessed in African immigrants and suggests that prevention efforts in this population should potentially emphasize life preservation and promote opportunities for life improvement as a means of reducing suicide risk.

In support of the hypotheses of this study some African immigrants did report that they would refer a suicidal individual to informal resources such as religious clergy or a spiritual advisor, and several respondents noted that they would offer direct advice and peer counseling to a suicidal person. However, many more respondents indicated that they would refer a suicidal person to a formal resource such as law enforcement personnel, community crisis agencies, and most commonly for personal counseling with a mental health professional. Many respondents endorsing peer counseling as a prevention strategy stressed the need for development of an empathic connection with the suicidal person, which is a basic component of successful psychotherapy (Jørgensen, 2004). This may represent a strong commitment among Africans toward social networks and the welfare of individuals in one's social group (Cheng et al., 2011) as well as an increased awareness of how suicide can affect social networks. When training African immigrants to assist suicidal peers and family members, emphasis should be placed on the importance of referral to both informal and formal resources.

Hypothesis 2: Bivariate Relations between Acculturation Levels and Other Study Variables

It was hypothesized that levels of integration, assimilation, separation, marginalization, and ethnic identity would be associated with attitudes toward suicide, symptoms of depression

and anxiety, perceived stress, culturally-oriented psychological distress, and attitudes toward seeking professional mental health services. Although many associations failed to reach significance, greater identification with African values and behaviors was associated with fewer symptoms of anxiety and depression, lower perceived stress and suicidal behavior, and less culture oriented psychological distress. These results support findings suggesting that greater identification with heritage culture is associated with better mental health (Ellis et al., 2010; Obasi & Leong, 2009). In fact, changes in identification with one's cultural values has been theorized to explain the immigration paradox, whereby good health is observed initially upon immigration and is gradually replaced by poorer health with the progression of time after immigration (Katsiaficas, Suárez-Orozco, Sirin, & Gupta, 2013).

Overall, identification with African culture in the context of integration (high American values and high African values), was associated with fewer depressive symptoms. Identification with American culture failed to have an effect on mental health but, in the context of assimilation (high American values and low African values), it was associated with tolerant suicide attitudes, supporting the idea that the adoption of cultural values of a country with higher suicide rates than culture of origin can contribute to tolerant suicide attitudes (Eshun, 2006). Perhaps, for African immigrants, holding on to African cultural values can be beneficial. As such, its promotion through behavioral engagement in African cultural activities may be necessary for enhancement of mental health. Findings not hypothesized included the positive associations between supportive attitudes toward help seeking behavior and anxiety and psychological distress, suggesting that African immigrants may be more likely to want to seek help when experiencing anxiety and culturally relevant distressing symptoms. The lack of significance for the relationship between help seeking, depressive symptoms, and stress suggests that these

conditions may be perceived as stigmatizing or unnecessary for soliciting external help from a professional mental health provider (Schomerus et al., 2012). Further, the observed negative relationship between attitudes towards help seeking behavior and suicidal behavior may reflect the hopelessness suicidal African immigrants may perceive and suggests that suicidal African immigrants may be at greater risk for death by suicide because of the low interest in professional help.

Hypothesis 3: Multivariable Regression for Suicide Attitude

Individual level predictors. There was partial support for hypotheses regarding individual level predictors of suicide attitude. Among African immigrants, male sex, greater levels of spirituality and religiousness, older age, and low levels of suicidal behavior were associated with less-tolerant and less-sympathetic attitudes toward suicide. The findings of this study are consistent with previous reports that, with maturation, individuals are more likely to develop moral objections against suicidal behavior and better perceive the irreversibility of suicide (Segal et al., 2004). This study also supports the premise that less approving attitudes toward suicide are associated with greater levels of religiousness and spirituality (Koenig et al., 2001). Based on the Religious Integration and Commitment models and the Network Theory, religious and spiritual factors, such as church attendance, and devotion to core religious or spiritual beliefs, such as finding meaning in suffering, afterlife, a responsive God, and the perception that suicide is an offense to divine morality, may promote negative attitudes toward suicide (Colucci & Martin, 2008; Osafo, Knizek, Akotia, & Hjelmeland, 2013; Stack & Kposowa, 2011). However, caution is necessary, as some religious beliefs or reactions may actually promote more-tolerant attitudes toward suicide, such as the belief that God is forgiving, or feeling disappointment in God (Akotia, Knizek, Kinyanda, & Hjelmeland, 2014). Given the

oft-cited importance of religiousness to Africans (Osafo et al., 2011), it seems that further research on such moral discrepancies is warranted to better inform potential suicide prevention efforts for African immigrants.

The findings of this study contribute to the well-established body of literature indicating an association between tolerant attitudes toward suicide and the experience of suicidal behavior (Hjelmeland et al., 2008; Renberg et al., 2008). This relation may reflect an individual's method of reducing cognitive dissonance between thoughts and actions or may be indicative of a vulnerability-stress model of suicide risk, in which tolerant attitudes toward suicide, in the context of stress, promote risk for suicidal behavior (Gibb, Andover, & Beach, 2006). Although this premise is based on theory, it is important to note that bidirectionality should be considered; for instance, some previous research suggests that a previous suicide attempt influences likelihood, or willingness, to engage in future suicide ideation (Gibb et al., 2006); thus, future research is needed to better explain the dynamic relationship between suicide attitudes and suicidal behavior.

The findings of this study suggest that males have less tolerance for suicide than females, which is contrary to previous research (Stack & Kposowa, 2008). However, mixed findings exist, as in a past study in which more females than males endorsed a permissive attitude regarding the personal right to die by suicide (Domino & Groth, 1997); further, such gender differences in attitudes toward suicide, as well as actual suicidal behavior, may be affected by culture (De Leo et al., 2013). Such disparity in findings across samples suggests that not only should culture and sex be considered with regard to tolerant attitudes toward suicide, but that their effects may also be suicide-concept specific.

With regard to causes of suicidal behavior, greater levels of education, suicidal behavior, and depressive symptoms were related to the attitude that suicide is caused by interpersonal factors. On the other hand, greater levels of spirituality, lower levels of suicidal behavior, and fewer symptoms of depression and anxiety were related to the perception that suicide is affected by intrapsychic causes. At least one of the findings in this study is supportive of previous research, which found religion to be associated with belief in intrapsychic causes of suicide (Voracek et al., 2007). Finally, being of female sex was related to the perception that suicide is affected by social factors. Overall, the pattern of results in this study suggests that, among African immigrants, suicide is viewed as having definite causal contributors rather than being viewed as unpredictable; however, causal attribution appears to be related to demographic and psychological factors, and to past suicidal behavior.

Microsystem level predictors. Exposure to the suicide of a peer and/or family member was associated with having a less-tolerant or less-sympathetic attitude toward suicide and, perhaps, may deter suicidal behavior. These findings are inconsistent with previous research in which positive attitudes toward suicide existed among South Africans exposed to the suicide of a close individual (Peltzer et al., 1998). Further, the relationship between suicide attitude and exposure to suicide appears to vary by cultural setting and type of suicide exposure (e.g. suicidal expression versus experience of suicide attempt of others) (Renbert et al., 2008) and, additionally, exposure to suicide is associated with consequent development of suicide risk factors such as psychopathology (Rew, Thomas, Horner, Resnick, & Beuhring, 2001). It is possible that the inverse relationship between exposure to peer suicide and having a negative attitude toward suicide, only manifests in individuals with low pre-existing levels of suicide risk factors; this proposition should be examined in future research. The significant finding of a

relation between exposure to peer, but not family, suicide on attitudes toward suicide, may be indicative of the effect of divergent acculturation processes (i.e., different acculturation pathways and rates across generations, such as differences between parent and offspring, or between first and second generations) among immigrants; such a process may decrease the influence of family on an individual's behavior and attitude, and increase identification with peers (Piedra & Engstrom, 2009).

It is interesting that the variables of exposure to family suicide, commitment in a relationship, and employment were nonsignificant. Following research that indicates that attitude change is more likely to occur in attitudinally diverse social networks than attitudinally stable networks (Levitan & Visser, 2009), there may be less diversity in suicide attitudes among families, and as such, suicide attitude change may be less likely to occur in family situations. With regard to the lack of a significant relationship between degree of commitment in a relationship and suicide attitude, it may be that this relation is moderated by sex because suicide risk is lower for married men than for married women (Stack, 1998). The absence of an effect for employment status on suicide attitude may reflect the complex relationship between employment and suicide whereby, despite employment, adverse work environments may increase risk for suicide (Schneider et al., 2011; Solano et al., 2012). For African immigrants employment may pose complications such as low-status jobs not commensurate to one's training or education, worry about the Immigration and Naturalization Service if lacking work documents, and the effects of multiple jobs on social network (Kamya, 2005). Future researchers should consider exploration of the interaction between adverse work environments and employment on suicide attitude and risk for immigrants.

With regard to causes of suicide exposure to the suicide of a peer was associated with the perception that suicide is caused by both interpersonal and intrapsychic factors. It may be that with increasing socialization and affiliation into a peer group, the likelihood of recognizing interpersonal and intrapsychic causes of suicide may increase. According to Social Comparison Theory, African immigrants may tend to compare their attitudes, behaviors, and experiences to those of peers (Möller & Marsh, 2013), and this process may increase awareness of factors they feel contribute to suicide behavior. Microsystem-level variables were not significantly associated with the perception that suicide is caused by social factors. The lack of significant findings may be because the social factors measured by quantitative means are inconsistent with culturally relevant social factors that were reported qualitatively. Social factors such as modern industrialization, pollution, and effects of living under dictatorship (items measured by social factor subscale) may be distal concepts that African immigrants are less likely to perceive as suicide risk factors.

Mesosystem level predictors. Little support was found for the role of mesosystem variables in the prediction of attitudes toward, and causes of, suicidal behavior. Only greater level of perceived social class relative to one's home country was significantly associated with the perception that suicide is caused by intrapsychic factors. Perhaps African immigrants with a perceived higher social class relative to persons in their home country have a greater awareness of intrapsychic risk factors for suicide as a result of greater opportunities for education and interaction with health care services that provide them with information about the personal/internal factors that contribute to mental well-being and illness. It may also be the case that social and financial success gained in the U.S., compared to one's home country, creates a blind spot (Case, Iuzzini, & Hopkins, 2012), making it less likely for individuals to perceive the

social and interpersonal contributions to suicide. According to Case and colleagues (2012), privilege - which exists among individuals in higher social class, and with greater socioeconomic success - may contribute to a diminished understanding of social factors (e.g., discrimination and oppression) that affect marginalized persons and increase suicide risk.

Exosystem level predictor. It was hypothesized that less exposure to media presentations of suicidal behavior would predict less tolerant attitudes toward suicide, lower perception that suicide is caused by interpersonal conflict and societal pressures, and greater perception that suicide is caused by intrapersonal problems. This hypothesis was not supported, and it may reflect an intergroup phenomenon whereby, for African immigrants, media affects suicide attitude indirectly. For example, according to the Hostile Media Effect and Social Identity Theory, media coverage of a perceived controversial topic may promote in-group identification and distancing from the out-group (Hartmann & Tanis, 2013) and, thereby, may strengthen attitudes consistent with one's African values. It may also be possible that media exposure to suicide deaths may have an indirect or moderating effect on attitudes toward suicide or perceptions about potential causes of suicide, perhaps through individual level characteristics such as mental health (McKenzie et al., 2005), which may weaken life preservation attitudes. For example, in a study where exposure to media suicide was not associated with suicide risk, it was found that other factors such as previous suicide attempt, interpersonal issues, and experience of physical assault were associated with suicide risk (Davidson, Rosenberg, Mercy, Franklin, & Simmons, 1989). These risk factors may moderate the relationship between media suicide exposure and one's attitude regarding suicide and beliefs about its causes.

Macrosystem level predictors. Greater identification with African values and behaviors predicted less tolerant or sympathetic attitudes toward suicide, and greater African ethnic identity

predicted the perception that suicide is caused by interpersonal factors. Although increased length of stay in the United States has been associated with positive attitudes toward suicide (Eshun, 2006), the findings of this study suggests that if African immigrants hold on to their cultural values, which often consider suicidal behavior to be taboo, they may continue to have condemning attitudes toward suicide. Further, it is possible that African immigrants with strong ethnic identity who adhere to the collectivistic or interdependent way of life common among Africans (Cheng et al., 2011) are able to recognize that interpersonal problems can contribute to suicidal behavior. More specifically, the typically-high dependence on social networks for well-being that Africans endorse (Cheng et al., 2011), may make it easier for African immigrants to perceive that lack of social connectedness due to interpersonal problems can contribute to detrimental instrumental (e.g. loss of guidance), emotional (e.g. loss of sense of belonging and intimacy), and material (e.g. loss of housing and money) effects, thereby increasing suicide risk. A summary of quantitative findings can be found in Figure 4.

Hypothesis 4: Acculturation and Help-Seeking Behavior

In mediation analyses there was not a direct relationship between identification with African and American cultural values and help seeking behavior. These results are contrary to studies among other immigrant groups that have found an association between high identification with one's native culture, low identification with host culture, and low help-seeking behaviors (Miller, Yang, Hui, Choi, & Lim, 2011). However, partially supporting the indirect hypothesis, identification with one's African culture contributed to low approval of suicide and low approval of suicide, was related to greater levels of professional help seeking behavior. Thus, the results of this study suggest that among African immigrants strong African cultural identification - which may include beliefs that suicide is a sin or taboo, is selfish or a sign of weakness, or warrants

punishment after death - may promote less tolerance of suicidal behavior (Osafo, Hjelmeland, Akotia, & Knizek, 2011), perhaps by fostering positive attitudes toward suicide prevention (Osafo et al., 2012) and, ultimately, reducing suicide risk by encouraging positive attitudes toward seeking professional help (Pitman & Osborn, 2011).

Hypothesis 5 and 6: Spirituality, Religiousness, and Suicide Attitude

In additional mediation analyses, no indirect effects of spirituality or religiousness on attitudes toward suicide via mental health variables, including stress and symptoms of depression and anxiety, were observed. However, higher levels of both spirituality and religiousness were directly related to less tolerant attitudes toward suicide. Higher levels of spirituality and religiousness were also directly related to less self-reported suicidal behavior but were not directly associated with perceived stress or symptoms of depression and anxiety. Surprisingly, higher levels of depressive symptoms were associated with a less-tolerant attitude toward suicide. The effects of spirituality and religiousness on suicide attitude corroborate results from the current study that were discussed earlier, indicating a relation between spirituality and religiousness and a negative attitude toward suicide. Perhaps spirituality and religiousness are associated with low tolerance for and engagement in suicidal behavior as a result of a sense of future orientation that encourages engagement in life preservation behaviors such as adaptive coping efforts (Hirsch, Nsamenang, Chang, & Kaslow, In Press). It may be that, for African immigrants and despite the experience of depressive symptoms, intermediary factors such as those previously identified in the qualitative section of this study (e.g. hardiness, resilience, and/or responsibility to family in the United States or Africa) exist, which may preclude tolerant attitudes toward suicide.

Alternatively, these results may simply be an accurate portrayal of the African immigrant sample in this study that appears to have endorsed both low reported levels of depressive symptoms and generally intolerant attitudes toward suicide. This pattern supports previous research among nonwestern populations; for instance, in a large study among 1,584 Koreans, there was a nonsignificant difference between individuals with and without depression on negative attitudes toward suicide (Jeon, Park, & Shim, 2013). Further, in a longitudinal study among Caucasian patients with a noncurable illness and mild levels of depression, depression was not found to affect attitudes toward suicide (Pacheco, Hershberger, Markert, & Kumar, 2003); it may be that, for African immigrants who already espouse condemning attitudes towards suicide, the presence of depressive symptoms may not be influential enough to alter these attitudes.

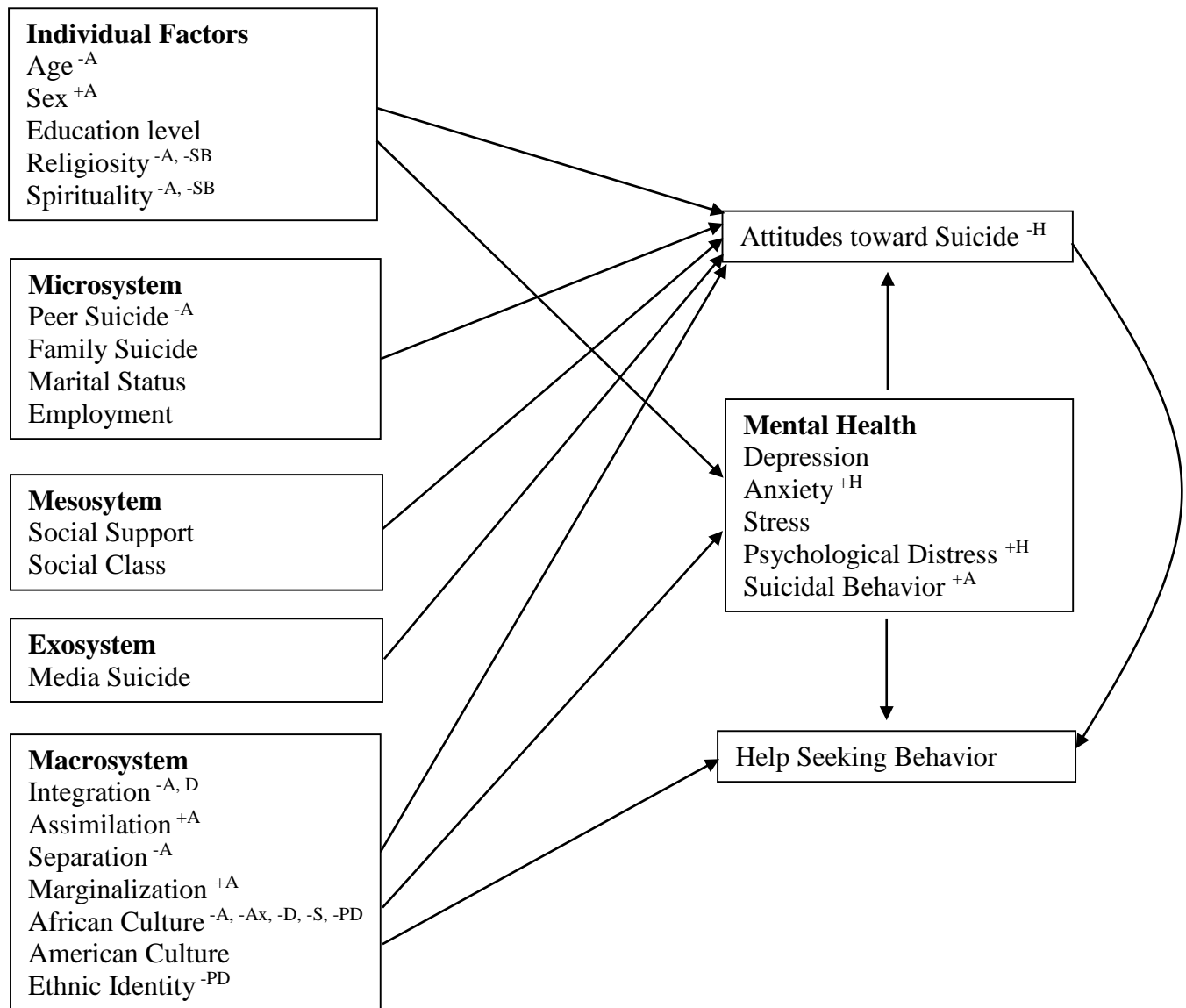


Figure 4. Summary of Quantitative Findings. - = negative association; + = positive association; A = significant association with attitude toward suicide; Ax = significant association with anxiety symptoms; D = significant association with depressive symptoms; H = significant association with help seeking behavior; S = significant association with Stress; SB = suicidal behavior; PD = significant association with Psychological Distress.

Implications

The novel results of this study, representing the first study of attitudes toward suicide and suicide prevention in African immigrants, may have implications for the customization of current, and the development of new culture-specific, suicide intervention strategies for African immigrants. Approaches to suicide prevention vary from targeting conditions associated with distress or suicide, targeting at-risk individuals versus reducing development of risk factors in those not at-risk, addressing nonfatal suicide attempts, and ameliorating societal problems such as improving access to, and efficacy of, treatment for mental health (Cantor & Baume, 1999). Prevention approaches must be culturally-contextualized to be effective (Hjelmeland, 2011), and the results of this study suggest that for African immigrants the focus of suicide intervention strategies should be directed toward resolution of conditions associated with suicide, specifically tolerant attitudes toward suicide, poor mental health, psychological distress, history of suicidal behavior, interpersonal problems, unwillingness to seek assistance, as well as acculturative characteristics such as adjustment to the United States, and cultural factors such as preservation of African values.

Although historically suicide has been viewed as a mental health issue to be addressed by clinical interventions, a proportionately low number of immigrants receive psychiatric services (Venters et al., 2011) and, per results of this study, African immigrants with tolerant attitudes toward suicide are less likely to seek mental health services. As such, traditional medical and clinical models may not be practical approaches to suicide prevention among African immigrants. Additionally, the causes of suicidal behavior identified by African immigrants in this study, including financial issues and discrimination, suggest that mere clinical support may not be sufficient. Although it may seem disappointing that clinical efforts would be insufficient

to prevent suicidal behavior, this is a phenomenon that has been noted in previous studies; for instance, individual-level interventions for hospitalized suicidal individuals and suicidal individuals receiving outpatient care have been found to have only a modest effect on reducing population suicide rates, and population-based strategies have been recommended (Lewis, Hawton, & Jones, 1997).

Although we are unaware of effective population based suicide prevention interventions for African immigrants, a community-based public health intervention in Japan that encouraged civic participation, targeting the general population and involving stakeholders such as healthcare services, and nonprofit organizations, was effective in reducing suicide rates (from 70.8 per 100,000 preintervention to 47.8 per 100,000 postintervention) (Motohashi, Kaneko, Sasaki, & Yamaji, 2007). Key components of the intervention included research on broad suicide risk factors and community attitudes toward suicide prevention, awareness raising activities (e.g., education on suicide risk factors and resources), training in communication skills, and involvement of community members in program implementation. This is a promising, yet isolated, finding, but one that suggests therapeutic approaches may be most effective when used in combination to address a variety of critical prevention targets. We recommend a public health-level suicide prevention strategy that is guided by an ecological framework that addresses: 1) proximate individual-level characteristics and experiences (e.g. depression and spirituality); 2) intermediate forces at the community-level (microsystem factors and mesosystem), such as social support and exposure to suicide; and, 3) distal forces, which refers to social and economic factors (exosystem and macrosystem), such as acculturation processes and interaction with institutions (Coreil, Bryant, & Henderson, 2001). As an example, to address proximate forces, researchers and health care providers must attend to the effects of internalized cultural

perceptions of suicide and consider culture-local markers, predictors, and protective factors of suicidal behavior (Hjelmeland et al., 2008; Sisask et al., 2010). Another example may be the blending of the individual and intermediate levels via encouragement of religious and spiritual values and behaviors, when appropriate or requested, which may contribute to a negative perception of suicide (Osafo et al., 2011).

The results of this study illuminate an interesting profile of risk and protective factors for African immigrants. Most African immigrants in this sample were nontolerant of suicide; however, their acceptability of suicide increased in concordance with their suicidal behavior. Traditional risk factors emerged, including perceived stress, depressive symptoms, interpersonal dysfunction, and financial difficulties, suggesting that some markers of suicide risk are consistent across ethnic and immigrant groups (Diekstra & Garnefski, 1995; Li, Page, Martin, & Taylor, 2011; McKenzie, 2012). Yet, some culture-specific elements were also predictive of suicidal behavior, including culture-oriented psychological distress, immigration stress, achievement strain, and the acculturative process. Knowledge of these potential points of intervention may be helpful in developing early identification and referral programs for individuals at risk for suicidal behavior. Related to this, there is a need to develop new culturally-sensitive assessments and therapeutic approaches (Chu et al., 2013) as well as convert existing evidence-based assessment and therapeutic strategies to be culturally relevant, that will be able to be reliably used to evaluate, diagnose, and treat African immigrants at-risk for, or engaging in, suicidal behavior.

Although we are unaware of clinical interventions that have been specifically and effectively used to reduce suicidal risk among African immigrants, many existing strategies should be appropriately applicable. For instance, engagement in Cognitive Behavioral Therapy (CBT) increases adaptive coping skills and decreases suicide risk (Tarrier, Taylor, & Gooding,

2008). CBT for suicide prevention may include psycho-education on the stress-diathesis model of suicidal behavior, identification of vulnerability factors through a chain analysis, safety planning, and increasing hopefulness by addressing reasons for living (Stanley et al., 2009). However, because CBT has a limited focus on social factors, interventions can be made culturally sensitive by integrating and addressing cultural and immigrant issues (Hall, 2001). For example, ethnic identification can be promoted by encouraging behavior activation focused on engagement in cultural events, and the inclusion of family members (nuclear and/or extended) can be considered in areas of psycho-education and safety planning. The findings of this study further suggest target areas for potential intervention, including: immigration stress, perceived discrimination, acculturation difficulties, poor achievement, and mental health difficulties. Additionally, problem solving strategies targeting perceived discrimination and encouragement of emotional identification, expression, and processing of specific problems faced by African immigrants may be beneficial. Another treatment that has demonstrated effectiveness in reducing suicide risk is Dialectical Behavior Therapy (DBT) (Panos, Jackson, Hasan, & Panos, 2014). One approach to culturally sensitive DBT interventions for African immigrants may be to increase emotion regulation and distress tolerance by addressing coping skills such as mindfulness and radical acceptance, which is acceptance of difficult situations without trying to change them (Neacsiu, Ward-Ciesielski, & Linehan, 2012)..

Regardless of the type of therapeutic orientation or strategy used, health care providers may benefit from awareness of reasons for migration, degree of achievement of migration aspirations, discrepancy between premigration aspirations and reality in the United States, degree of connection with social networks in the United States and in Africa, sense of obligation to family in Africa, family traditions, spiritual and religious beliefs or practices, acculturation, the

effects of colonialism, and gender roles (Kamya, 2005; Nwoye, 2009). It would be difficult to address all of these elements in a suicide prevention program and, so, further research is necessary to determine the most salient predictors of mental health and treatment-seeking. The results of this study suggest that proactive and early detection of at-risk individuals may be important for African immigrants because with increasing distress and suicidality, they may be less likely to seek professional assistance; thus, screening and referral guidelines and improving access to care are important.

Once in care, clinicians may demonstrate cultural sensitivity via respect for the religious and spiritual beliefs of African immigrants (Hall, 2001), and the promotion of spiritual and religious coping with its often-consequent adaptive socio-emotional and cognitive benefits (Ada Wai-Tung & Linda Chiu-Wa, 2013; Sanderson, 2008). Therapeutic work may also focus on the assessment of, and discrimination between, realistic and unrealistic goals and expectations (Potocky-Tripodi, 2002); further, case management services could be employed to provide African immigrants with resources for economic, cultural, and social adjustment. Person-in-environment conceptualizations in therapy may be warranted to foster the understanding of African immigrants' acculturation experiences and to support African immigrants as they navigate through the historical and cultural contexts in which they live (Hermans, 2001). Clinicians working with African immigrants need to be conscious of factors that can affect rapport building such as past experiences with oppression, mistrust of authority, perhaps as a result of migrating from nations with no freedom of speech, and fear of deportation; as such, clinicians may want to appropriately disclose their role and experience working with other African immigrants, to establish credibility (Segal & Mayadas, 2005).

Prevention efforts may also target intermediate suicide risk factors such as exposure to peer suicide, which was related to greater acceptance of suicide. For instance, development of peer-awareness programs may be beneficial to address risk factors before they emerge as suicidal behavior. A public health messaging campaign may also be beneficial toward efforts to increase dissonance; in particular, one that proactively encourages help-seeking behaviors and adaptive coping. Study findings suggest that African immigrants may be particularly responsive to health messaging focused on the potential for improvements in life, the ineffectiveness of suicide as a solution to problems, and the value of human life; thus, helping professionals and community stakeholders should be encouraged to focus on these aspects in the therapeutic and social programs they develop for prevention efforts.

An additional strategy may involve improving support systems. The results of this study suggest that African immigrants may prefer to provide peer counseling to individuals at risk. As such, it may be important to use prevention strategies that bolster the ability to provide peer support, such as the LifeSavers peer-support suicide prevention training program, which encourages teamwork, nonjudgmental listening skills, awareness of suicide risk factors, and referral to professional help. Similarly, the Question Persuade and Refer (QPR) Suicide Gatekeeper training program, which improves detection and referral of individuals at risk for suicide by teaching trainees to question, persuade, and refer a suicidal person, is widely used as a peer safety program (Cerel, Padgett, Robbins, & Kaminer, 2012; Walker, Ashby, Hoskins, & Greene, 2009). These peer support programs can be made culturally relevant to African immigrants, by incorporating risk (e.g., acculturation stress, failure in immigration goals) and protective factors (e.g. negative suicide attitude, family, resilience) relevant to this population, information on suicide prevalence and, supporting use of religious and spiritual coping.

Prevention strategies targeting more-distal risk and protective factors could focus on environments (e.g., healthcare settings, church, work, and school) that are frequented by African immigrants. In academic, vocational, and religious settings a broad approach may be desirable, such as training staff and students, and employees and employers, to be suicide gatekeepers. Programs such as QPR, which focuses on knowledge of symptoms of depression and suicide, and emphasizes the ability to engage with a suicidal person and get them professional assistance (Cerel et al., 2012; Smith, Silva, Covington, & Joiner, 2013), could be customized to address the sociocultural issues confronting African immigrants.

Further, community entities serving the African immigrant community, such as churches, African TV stations, African businesses, and African cultural centers may be the target for population-based programs that encourage spirituality, religiousness, ethnic identity, and cultural values and behaviors. Study results suggest that these are negatively associated with tolerant attitudes toward suicide and suicidal behavior, making them important societal level prevention targets. Such efforts may be most effective when cultural activities are an integral component of the intervention (Iwasaki, Byrd, & Onda, 2011). As such, public entities and helping organizations, may wish to sponsor activities that promote ethnic belongingness and identity, support cultural values and bolster good mental health (Iwasaki et al., 2011). Social organizations and systems working to prevent suicide in African immigrants will need to respect the interdependence tendencies of Africans (Hall, 2001) and should help to strengthen the support systems used by African immigrants for problem solving, such as extended family and church members.

The mobilization of governmental, community, and group resources, such as churches and ethnic leaders, may also be important in addressing issues of perceived and institutionalized

discrimination and racism (Rosado & Elias, 1993), including immigration and economic policies that harm immigrants and contribute to suicide risk (Lewis et al., 1997). Research evidence suggests that public mental health spending has minimal effects and nonsignificant effects on reducing suicide rates, and prevention strategies that foster socioeconomic factors such as growth in income and financial support may have added benefits to suicide prevention (Ross, Yakovlev, & Carson, 2012).

In healthcare settings, in addition to training physicians to be better gatekeepers (Pfaff, Acres, & McKelvey, 2001), psychologists or behavioral health consultants may be trained to provide brief interventions, such as the Brief Intervention and Contact (BIC) protocol, which effectively reduced suicide risk among a culturally diverse sample (Bertolote et al., 2010). The BIC protocol consists of an individual session providing psycho-education on psychological and social distress that contribute to suicidal behavior, suicide statistics, risk and protective factors, and adaptive coping strategies, as well as continued follow-up contacts via phone or home visits.

In the event of a death by suicide, culturally-relevant support should be provided to the African immigrant community (Skehan, Maple, Fisher, & Sharrock, 2013); such assistance may be in the form of suicide survivor support groups, resources for coping with grief, trauma, and depression, and encouraging help-seeking behavior (Feigelman & Feigelman, 2008; McMenamy, Jordan, & Mitchell, 2008). Media reporting in the event of a community suicide or death by suicide of an African immigrant should adhere to current guidelines such as avoiding sensationalized or romanticized accounts of the suicide (e.g., report of location or methodology), and using appropriate terminology (e.g., “death by suicide” versus “successful suicide”). Media messaging may be made culturally sensitive to African immigrants by providing culture-local information on environmental supports.

Limitations and Future Research

The current study had many strengths including the use of a diverse sample of student and community-dwelling African immigrants to the United States. The sample in this study also originated from a wide array of African countries, further contributing to the generalizability of study findings. An additional positive aspect of this study was the implementation of qualitative research techniques that allowed evaluation without imposing predetermined attitudes that may not be relevant to African immigrants.

However, despite the novel approach and findings of this study, there were some limitations. First, the somewhat lengthy study questionnaire used in this study, which took about 30-45 minutes to complete, may have contributed to testing fatigue and may have hindered recruitment and completion of the task. Additionally, the survey battery included measures that had not been previously tested and validated in an African sample; therefore, briefer assessments using culturally-sensitive and culturally-validated instruments are necessary to replicate findings.

This study used a cross-sectional approach and this approach excludes the examination of causal inferences; bidirectionality may also be a concern. For instance, reciprocal associations may exist between suicidal behavior and suicide attitudes, as tolerant suicide attitudes may predict suicidal behavior. As well, although some individual and ecological factors were associated with attitudes toward suicide, it is unclear if there may have been differences in these associations premigration and postmigration. Future longitudinal and prospective research is necessary, including pre- and postimmigration beliefs and values, to further clarify the interrelationships between one's own experiences with suicide and attitudes toward suicide and help-seeking behavior.

Although the sample of this study consisted of African immigrants from diverse African countries, most respondents were immigrant students recruited from college campuses across the United States, with other respondents recruited via social media and African immigrant online support forums. Thus, study results may not be generalizable to all African immigrants dwelling in the United States. Similarly, differences in immigration status, level of social integration, degree of acculturation, and socioeconomic status (Rojas-García, 2013) may have important effects on attitudes toward, mental health, and help seeking behavior, and these complex interactions should be explored and accounted for in future research and prevention endeavors.

Overall, indirect effect models and hypothesized ecological predictors of suicide attitude tested were not statistically significant, perhaps due to the relatively small sample size, which may have limited the potential to find statistically significant results. Despite this, study results are a first attempt to characterize the risk and protective factors contributing to suicidal behavior in African immigrants. Another consideration is unequal representation of respondents from across regions of Africa and African countries, making analyses of differences in suicide attitudes by region impractical. This may be an important area for future study, as although there is overall poor mental health infrastructure in African countries, some regions in Africa have better resources (Jenkins et al., 2010), and prior exposure to mental health information may affect attitudes toward suicide, suicide prevention, and perceived causes of suicide.

Finally, although one of the most novel aspects of this study is the use of qualitative methodology to extract etiologically-relevant attitudes toward suicide, we are unable at this early stage to quantify or conduct causal analyses of this African-based contextual understanding of attitudes toward suicide, perceived causes of suicide, and suicide prevention. To substantiate the qualitative findings of this study, it is necessary to first develop reliable and valid instruments

that are culturally–sensitive and designed for the African immigrant community, and/or adapt for reliability and validity for existing relevant measures so that we may better understand the interrelationships between the ecological factors contributing to risk for and protection from suicide in the vulnerable, yet resilient, population of African immigrants living in the United States.

Conclusion

The current study extends research on attitudes toward suicide and help-seeking behavior by examining their relation to individual and ecological factors among African immigrants. The majority of African immigrants in this sample had negative, condemning, and stigmatizing attitudes towards suicide; yet, they also expressed a sense of hardiness in dealing with suicide. At the individual level, older age, male sex, higher levels of religiousness and spirituality, and lower levels of suicidal behavior were associated with less-tolerant attitudes toward suicide, as were problem solving, positive orientation toward life, resilience, adherence to moral values, and the perceived value of human life. At the microsystem level, exposure to the suicide of a peer was associated with a condemning attitude toward suicide. Although the quantitative assessment did not identify the measured mesosystem level factors as contributors to attitudes toward suicide, the qualitative results suggest that the perceived social effects of suicide were a potential protective barrier against suicide. Similarly, no measured exosystem level factors were significantly related to attitudes toward suicide but, in qualitative analyses, some African immigrants noted that suicide was common in the United States because it is largely perceived as a “normal” behavior; yet, some African immigrants suggested that suicide was a universal concept. Also at the exosystem level views were similarly mixed regarding the legality of suicide, with some respondents indicating that suicide should be a crime, and others rejecting the

idea. At the macrosystem level only identification with African values and behaviors was found to predict less-tolerant attitudes toward suicide; specifically, greater levels of integration and separation and lower levels of assimilation and marginalization, were associated with less-tolerant attitudes toward suicide. As such, when African immigrants remain adherent to their traditional cultural values and beliefs, perhaps with an equitable amount of adoption of American values (e.g. integration and separation), they may hold negative attitudes toward suicide. However, when African immigrants adopt American values solely or have low levels of both African and American values (e.g. assimilation and marginalization), they may develop more lenient attitudes toward suicide. In this study identification with African values and behaviors had beneficial associations with mental health.

Overall, this study revealed culture specific attitudes toward causes of suicide for African immigrants and corroborates previous studies suggesting that ecological characteristics have been associated with such beliefs and help-seeking behaviors. Intuitively, less-tolerant attitudes toward suicide may be a protective factor, whereas stigmatized beliefs about treatment seeking may increase suicide risk. Yet, even in the presence of condemning suicide attitudes, African immigrants identified the importance of connecting a suicidal personal to both informal and formal resources.

In conclusion, the results of this study suggest that suicide prevention is an acceptable concept among African immigrants perhaps because of the strong negative and condemning attitudes they hold against suicide. Importantly, this study is the first of which we are aware to apply an ecological model to the study of attitudes toward suicide among African immigrants, and it is hoped that the results this study will promote an understanding of factors that may

influence the serious public health problem of suicide in this vulnerable group as well as inform culturally-sensitive prevention and intervention strategies.

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APPENDICES

Appendix A

Participant Demographic Questionnaire

1. What is your age?
2. What is your date of birth? (MM/DD/YYYY)
3. What is your sex? (Male; Female)
4. Which best describes your sexual orientation?
 - i. Heterosexual
 - ii. Homosexual
 - iii. Bisexual
 - iv. Transgender
 - v. Questioning
 - vi. Intersex
 - vii. Asexual
 - viii. Other (Please specify)
5. With whom do you currently live?
 - i. Live alone
 - ii. Live with roommate(s)
 - iii. Live with a significant other (in an intimate relationship)
 - iv. Live with parent(s) or other family members
6. What is your Martial status (Please check one):
 - i. Single
 - ii. Dating
 - iii. Divorced
 - iv. Engaged
 - v. Widowed
 - vi. Married
7. Please select which category reflects most closely your employment status:
 - i. Employed full-time
 - ii. Employed part-time
 - iii. Unemployed
 - iv. Student
 - v. Homemaker
 - vi. Retired

8. What is your total annual household income?

- | | |
|---------------------------|----------------------------|
| i. Under \$10,000 | vii. \$60,001 to \$70,000 |
| ii. \$10,000 to \$20,000 | viii. \$70,001 to \$80,000 |
| iii. \$20,001 to \$30,000 | ix. \$80,001 to \$90,000 |
| iv. \$30,001 to \$40,000 | x. \$90,001 to \$100,000 |
| v. \$40,001 to \$50,000 | xi. Over \$100,000 |
| vi. \$50,001 to \$60,000 | |

9. What country are you from? (Please check one):

| | | |
|----------------------------------|---------------|-----------------------|
| Algeria | Eritrea | Namibia |
| Angola | Ethiopia | Niger |
| Benin | Gabon | Nigeria |
| Botswana | Gambia | Rwanda |
| Burkina Faso | Ghana | Sao Tome and Principe |
| Burundi | Guinea | Senegal |
| Cameroon | Guinea-Bissau | Seychelles |
| Cape Verde | Kenya | Sierra Leone |
| Central African Republic | Lesotho | Somalia |
| Chad | Liberia | South Africa |
| Comoros | Libya | Sudan |
| Congo | Madagascar | Swaziland |
| Democratic Republic of the Congo | Malawi | Tanzania |
| Cote d'Ivoire | Mali | Togo |
| Djibouti | Mauritania | Tunisia |
| Egypt | Mauritius | Uganda |
| Equatorial Guinea | Morocco | Zambia |
| | Mozambique | Zimbabwe |

10. Which best describe(s) your ethnic, racial, and/or cultural background?

- i. Central African
- ii. Eastern African
- iii. Northern African
- iv. Southern African
- v. Western African
- vi. Other (Please specify)

11. Do you consider yourself to be African?

- i. Yes
- ii. No

12. Are your parents African?

- i. Yes
- ii. No

13. Please select the generation that represents your status in the United States.
- i. 1st generation (i.e., you were not born in the U.S.)
 - ii. 2nd generation (i.e., at least one parent was born in the U.S.)
 - iii. 3rd generation (i.e., at least one grandparent was born in the U.S.)
 - iv. 4th generation (i.e., at least one great-grandparent was born in the U.S.)
 - v. above 4th generation
14. Do you consider yourself:
- i. Completely Americanized
 - ii. Mostly Americanized
 - iii. About half Americanized
 - iv. A little Americanized
 - v. Not at all Americanized
15. Where you live, are your neighbors:
- i. Completely Americanized
 - ii. Mostly Americanized
 - iii. About half Americanized
 - iv. A little Americanized
 - v. Not at all Americanized
16. In what U.S. state do you live?
17. What is the highest education level you have obtained? (Please check one):
- | | |
|-----------------------------------|-----------------------------------|
| i. Elementary school | v. Associate or two year degree |
| ii. Some High School (no diploma) | vi. Bachelors or four year degree |
| iii. High School Graduate/Diploma | vii. Master's degree |
| iv. Some college | viii. Professional degree |
| | ix. Doctorate degree |
18. What was your age when you first entered the U.S?
19. Total number of family members living in household?
20. Total number of other relatives living in the same city as you?
21. When was your first entry into the United States? (MM/DD/YYYY)
22. For how many years have you been in the United States?
23. Do you currently have health insurance?
- i) No ii) Yes – minimal coverage iii) Yes – good coverage

24. Compared to pre-migration, my expectations about the U.S. have:
i) Gotten worse ii) Remained the same iii) gotten better
25. What is your plan for residence in the U. S.?
i) Uncertain ii) Temporal iii) Permanent

26. Compared to when you were in your home country, how would you rate your health in general now?
- i. Much better now
 - ii. Somewhat better
 - iii. About the same
 - iv. Somewhat worse
 - v. Much worse now

How TRUE or FALSE is each of the following statements for you?

27. I seem to get sick a little easier than other people
- i. Definitely true
 - ii. Mostly true
 - iii. Don't know
 - iv. Mostly false
 - v. Definitely false

28. I am as healthy as anybody I know
- i. Definitely true
 - ii. Mostly true
 - iii. Don't know
 - iv. Mostly false
 - v. Definitely false

29. I expect my health to get worse
- i. Definitely true
 - ii. Mostly true
 - iii. Don't know
 - iv. Mostly false
 - v. Definitely false

30. My health is excellent
- i. Definitely true
 - ii. Mostly true
 - iii. Don't know
 - iv. Mostly false
 - v. Definitely false

31. Have you ever been to counseling or any other type of psychological and mental health services?
- i. Yes
 - b. No

8. Are you currently receiving psychological counseling?
 - i. Yes
 - b. No

9. Are you familiar with the psychological counseling services in your community?
 - i. Yes
 - b. No

10. If I had a mental illness:
 - i. I would feel ashamed. (Yes/No)
 - ii. I would feel comfortable telling my friends or family. (Yes/No)
 - iii. I would feel okay if people in my community (church, school, etc) knew. (Yes/No)

11. To what extent do you consider yourself to be a spiritual person?
 - i. Very spiritual
 - ii. Moderately spiritual
 - iii. Slightly spiritual
 - iv. Not spiritual at all

12. To what extent do you consider yourself to be a religious person?
 - i. Very religious
 - ii. Moderately religious
 - iii. Slightly religious
 - iv. Not religious at all

13. What, if any, is your current religious preference?
 - i. Protestant
 - ii. Catholic
 - iii. LDS / Mormon
 - iv. Jewish
 - v. Other
 - vi. No Preference / No religious affiliation
 - vii. Prefer not to say

14. To what extent do you consider yourself to be part of a religious community?

| | | | | |
|------------|----------|------------|--------|------------|
| Not at all | A little | Moderately | Mostly | Completely |
| 1 | 2 | 3 | 4 | 5 |

15. How often do you feel you have been a target for discrimination:
 - i. By a health professional (never, once, 2 or 3 times, 4 or more times)
 - ii. At work (never, once, 2 or 3 times, 4 or more times)
 - iii. At school (never, once, 2 or 3 times, 4 or more times)

Appendix B

Open-ended Questions

1. In your opinion, what might cause an African immigrant to think about attempting suicide?
2. What is your attitude toward suicide?
3. What do you think about suicide as a crime?
4. What would you do if someone you know was suicidal?
5. How do you think others would feel if an African was suicidal?
6. Please indicate the reason why you are for or against suicide.
7. Please indicate the reason why you are for or against suicide prevention.

Intrinsic Spirituality Scale

The questions use a sentence completion format to measure various attributes associated with spirituality. An incomplete sentence fragment is provided, followed directly below by two phrases that are linked to a scale ranging from 0 to 10. The phrases, which complete the sentence fragment, anchor each end of the scale. The 0 to 10 range provides you with a continuum on which to reply, with 0 corresponding to absence or zero amount of the attribute, while 10 corresponds to the maximum amount of the attribute. In other words, the end points represent extreme values, while five corresponds to a medium, or moderate, amount of the attribute. Please select the number along the continuum that best reflects your initial feeling.

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Appendix D

Duke University Religion Index

Instructions: Please answer the following questions about your religious beliefs and/or involvement.

1. How often do you attend church or other religious meetings?
 - a. More than once/wk
 - b. Once a week
 - c. A few times a month
 - d. A few time a year
 - e. Once a year or less
 - f. Never
2. How often do you spend time in private religious activities, such as prayer, meditation or Bible study?
 - a. More than once a day
 - b. Daily
 - c. Two or more times/week
 - d. Once a week
 - e. A few times a month
 - f. Rarely or never

The following section contains 3 statements about religious belief or experience. Please mark the extent to which each statement is true or not true for you.

3. In my life, I experience the presence of the Divine (i.e., God).
 - a. Definitely true of me
 - b. Tends to be true
 - c. Unsure
 - d. Tends not to be true
 - e. Definitely not true
4. My religious beliefs are what really lie behind my whole approach to life.

| | |
|--|--|
| <ol style="list-style-type: none">a. Definitely true of meb. Tends to be truec. Unsure | <ol style="list-style-type: none">d. Tends not to be truee. Definitely not true |
|--|--|
5. I try hard to carry my religion over into all other dealings in life.
 - a. Definitely true of me
 - b. Tends to be true
 - c. Unsure
 - d. Tends not to be true
 - e. Definitely not true

Appendix E

Depression Anxiety Stress Scale (DASS 21)

Instruction: Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all - NEVER

1 Applied to me to some degree, or some of the time - SOMETIMES

2 Applied to me to a considerable degree, or a good part of time - OFTEN

3 Applied to me very much, or most of the time - ALMOST ALWAYS

| | | | | |
|--|---|---|---|---|
| 1. I found it hard to wind down | 0 | 1 | 2 | 3 |
| 2. I was aware of dryness of my mouth | 0 | 1 | 2 | 3 |
| 3. I couldn't seem to experience any positive feeling at all | 0 | 1 | 2 | 3 |
| 4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion) | 0 | 1 | 2 | 3 |
| 5. I found it difficult to work up the initiative to do things | 0 | 1 | 2 | 3 |
| 6. I tended to over-react to situations | 0 | 1 | 2 | 3 |
| 7. I experienced trembling (e.g., in the hands) | 0 | 1 | 2 | 3 |
| 8. I felt that I was using a lot of nervous energy | 0 | 1 | 2 | 3 |
| 9. I was worried about situations in which I might panic and make a fool of myself | 0 | 1 | 2 | 3 |
| 10. I felt that I had nothing to look forward to | 0 | 1 | 2 | 3 |
| 11. I found myself getting agitated | 0 | 1 | 2 | 3 |
| 12. I found it difficult to relax | 0 | 1 | 2 | 3 |
| 13. I felt down-hearted and sad | 0 | 1 | 2 | 3 |
| 14. I was intolerant of anything that kept me from getting on with what I was doing | 0 | 1 | 2 | 3 |
| 15. I felt I was close to panic | 0 | 1 | 2 | 3 |
| 16. I was unable to become enthusiastic about anything | 0 | 1 | 2 | 3 |
| 17. I felt I wasn't worth much as a person | 0 | 1 | 2 | 3 |
| 18. I felt that I was rather touchy | 0 | 1 | 2 | 3 |
| 19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat) | 0 | 1 | 2 | 3 |
| 20. I felt scared without any good reason | 0 | 1 | 2 | 3 |
| 21. I felt that life was meaningless | 0 | 1 | 2 | 3 |

Appendix F

Psychological Distress

Instruction: I would like to ask you some questions about how you have been feeling in the past week. Below are some statements that ask you to indicate how many days you have had particular feelings or ideas or whether you have not had them at all.

1. Felt your heart being painful.

| | | | |
|-------------------------------|--|---------------------------------------|---------------------------------------|
| Rarely or none of the time | Some or a little of the time (1-2 days) | Moderate amount of time (3-4 days) | Most or all of the time (5-7 days) |
| 0 | 1 | 2 | 3 |

2. Felt your spirit was low.

| | | | |
|-------------------------------|--|---------------------------------------|---------------------------------------|
| Rarely or none of the time | Some or a little of the time (1-2 days) | Moderate amount of time (3-4 days) | Most or all of the time (5-7 days) |
| 0 | 1 | 2 | 3 |

3. Been thinking too much.

| | | | |
|-------------------------------|--|---------------------------------------|---------------------------------------|
| Rarely or none of the time | Some or a little of the time (1-2 days) | Moderate amount of time (3-4 days) | Most or all of the time (5-7 days) |
| 0 | 1 | 2 | 3 |

Appendix G

Suicidal Behaviors Questionnaire-Revised

1. Have you ever thought about or attempted to kill yourself? (check one only)
 - 1) Never
 - 2) It was just a brief passing thought
 - 3) I have had a plan at least once to kill myself but did not try to do it.
 - 4) I have had a plan at least once to kill myself and really wanted to die
 - 5) I have attempted to kill myself, and hoped to die
2. How often have you thought about killing yourself in the past year? (check one only)
 - 1) Never
 - 2) Rarely
 - 3) Sometimes
 - 4) Often
 - 5) Very Often
3. Have you ever told someone that you were going to commit suicide or that you might do it? (check one only)
 - 1) No
 - 2) Yes, at one time, but did not really want to die
 - 3) Yes, at one time, and really wanted to die
 - 4) Yes, more than once, but did not want to do it
 - 5) Yes, more than once, and really wanted to do it
4. How likely is it that you will attempt suicide someday? (check one only)
 - 1) Never
 - 2) No chance at all
 - 3) Rather unlikely
 - 4) Unlikely
 - 5) Likely
 - 6) Rather likely
 - 7) Very likely

Appendix H

Exposure to Peer Suicide

Instruction: Please indicate yes or no for the following statements.

- 1) A friend/peer has told me they were thinking of suicide (Yes/No)
- 2) I know of a friend/peer who attempted suicide. (Yes/No)
- 3) I know of a friend/peer who died by suicide. (Yes/No)

Appendix I

Exposure to Suicide of Family Member

Instruction: Please indicate yes or no for the following statements.

- 1) A family member has told me they were thinking of suicide. (Yes/No)
- 2) I know of a family member who attempted suicide. (Yes/No)
- 3) I know of a family member who died by suicide. (Yes/No)

Appendix J

Media Suicide Exposure

Media Exposure

Instruction: Please indicate the frequency to which you have come across messages related to suicidal behavior through the following outlets.

1) Television (e.g. cable, network, satellite, dish)

| | | | | |
|------------|--------|--------------|-------|------------|
| Not at all | Rarely | Occasionally | Often | Frequently |
| 0 | 1 | 2 | 3 | 4 |

2) Web/Internet

| | | | | |
|------------|--------|--------------|-------|------------|
| Not at all | Rarely | Occasionally | Often | Frequently |
| 0 | 1 | 2 | 3 | 4 |

3) Radio

| | | | | |
|------------|--------|--------------|-------|------------|
| Not at all | Rarely | Occasionally | Often | Frequently |
| 0 | 1 | 2 | 3 | 4 |

4) Film/Video

| | | | | |
|------------|--------|--------------|-------|------------|
| Not at all | Rarely | Occasionally | Often | Frequently |
| 0 | 1 | 2 | 3 | 4 |

5) Press (e.g., newspapers, magazines)

| | | | | |
|------------|--------|--------------|-------|------------|
| Not at all | Rarely | Occasionally | Often | Frequently |
| 0 | 1 | 2 | 3 | 4 |

6) Text messaging

| | | | | |
|------------|--------|--------------|-------|------------|
| Not at all | Rarely | Occasionally | Often | Frequently |
| 0 | 1 | 2 | 3 | 4 |

Appendix K

Perceived Social Support

Instruction: Please select the number that indicates the availability of emotional advice, guidance, and social support from the following:

Family

- 1) There are people in my family I can talk to, who care about my feelings and what happens to me.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

- 2) There are people in my family I can talk to, who give good suggestions and advice about my problems.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

- 1) There are people in my family who help me with practical problems like how to get somewhere, or help me with a job or project.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

Peers

- 2) I have friends I can talk to, who care about my feelings and what happens to me.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

- 3) I have friends I can talk to, who give good suggestions and advice about my problems.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

- 4) I have friends who help me with practical problems like how to get somewhere, or help me with a job or project.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

Community

- 1) I have community members I can talk to that care about my feelings and what happens to me.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

- 2) I have community members that I can talk to, who give good suggestions and advice about my problems.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

- 3) I have community members who help me with practical problems like how to get somewhere, or help me with a job or project.

| | | |
|------------|------|-------|
| Not at all | Some | A lot |
| 0 | 1 | 2 |

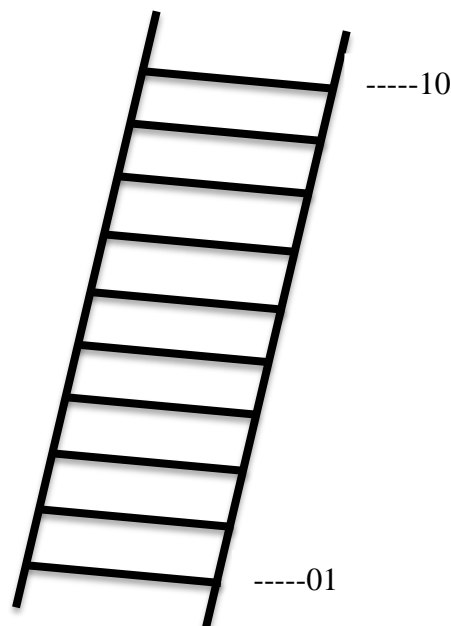
Appendix L

Social Class

Here is a ladder. There are ten rungs in total from the bottom to the top.

Think of this ladder as representing where people stand in your home country or the United States. At the top (rung 10) of the ladder are the people who are the best off – those who have the most money, the most education and the most respected jobs. At the bottom (rung 1) are the people who are the worst off – who have the least money, the least education, and the least respected jobs or no jobs.

The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are the closer you are to the people at the very bottom.



- 1) If you consider your current situation and compare it with people in the United States, indicate the ladder number that represents your current position relative to individuals in the United States.
- 2) If you consider your current situation and compare it with people in your country of origin, indicate the ladder number that represents your current position relative to individuals in your country of origin.
- 3) Indicate the ladder number that represents your position when you were in your country of origin.

Appendix M

Acculturation Index Items

Instruction: How similar are you to people from your country of origin in the following domains?

| | | | | | | | |
|-----------------------------|---|---|---|---|---|---|-------------------|
| 1. Clothing | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 2. Pace of life | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 3. General knowledge | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 4. Food | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 5. Religious beliefs | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 6. Material comfort | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 7. Recreational activities | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 8. Self-identity | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 9. Family life | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 10. Accommodation/residence | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |

| | | | | | | | |
|------------------------------|---|---|---|---|---|---|-------------------|
| 11. Values | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 12. Friendships | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 13. Communication styles | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 14. Cultural activities | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 15. Language | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 16. Employment activities | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 17. Perceptions of Africans | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 18. Perceptions of Americans | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 19. Political ideology | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 20. Worldview | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 21. Social customs | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |

Instruction: How similar are you to Americans in the following domains?

| | | | | | | | |
|-----------------------------|---|---|---|---|---|---|-------------------|
| 1. Clothing | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 2. Pace of life | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 3. General knowledge | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 4. Food | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 5. Religious beliefs | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 6. Material comfort | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 7. Recreational activities | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 8. Self-identity | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 9. Family life | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 10. Accommodation/residence | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 11. Values | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |

| | | | | | | | |
|------------------------------|---|---|---|---|---|---|-------------------|
| 12. Friendships | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 13. Communication styles | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 14. Cultural activities | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 15. Language | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 16. Employment activities | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 17. Perceptions of Africans | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 18. Perceptions of Americans | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 19. Political ideology | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 20. Worldview | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 21. Social customs | | | | | | | |
| Not at all similar | | | | | | | Extremely similar |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | |

Appendix N

Multigroup Ethnic Identity Measure—Revised (MEIM—R)

Please fill in: In terms of ethnic group, I consider myself to be _____

Instruction: Use the numbers below to indicate how much you agree or disagree with each statement.

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree
2. I have a strong sense of belonging to my own ethnic group.
(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree
3. I understand pretty well what my ethnic group membership means to me.
(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree
4. I have often done things that will help me understand my ethnic background better.
(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree
5. I have often talked to other people in order to learn more about my ethnic group.
(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree
6. I feel a strong attachment towards my own ethnic group.
(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

Appendix O

Attitude toward Suicide Survey

Instruction: Please indicate degree to which you agree or disagree with the following statements.

1. I would feel ashamed if a relative died by suicide.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
2. Suicide is allowable when a person has an incurable disease.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
3. Suicide victims have a mental illness.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
4. Suicide victims have a weak personality.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
5. Suicide is an acceptable means to end an incurable disease.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
6. Suicide victims are cowards and cannot face the challenges of life.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
7. People do not have the right to take their lives.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
8. Suicide is a normal behavior.
Strongly agree Agree Neither agree or disagree Disagree Strongly disagree
1 2 3 4 5
9. Do you think you have the right to die by suicide?
Yes No
1 2

Appendix P

The Attributions of Causes to Suicide Scale

Instruction: Please indicate degree to which you agree or disagree with the following statements.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

1. People who die by suicide are usually mentally ill.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

2. People often die by suicide as a way of punishing themselves.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

3. Most people who kill themselves are depressed.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

4. People who survive an attempt to kill themselves should be required to have psychotherapy so that they can understand their inner motivations.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

5. People who kill themselves have lost their belief in God.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

6. People who kill themselves are thinking irrationally.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

7. Suicide is often triggered by arguments with a lover or spouse.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

8. Suicide can be caused by work stress such as being fired from your job.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

9. Experiencing parental divorce is likely to increase your risk of suicide.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

10. The way a person was disciplined as a child is related to whether he or she will later kill him/herself.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

11. When someone kills him/herself, you usually find that the family and friends are to blame.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

12. A suicide attempt is usually an attempt to get sympathy from others.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

13. Those who are oppressed in a society are more likely to die by suicide.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

14. People who live under dictatorships are more likely to kill themselves.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

15. People who face starvation, malnutrition, and the accompanying disease are likely to kill themselves.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

16. If a culture were to allow the open expression of feelings such as anger or shame, then people would be less likely to kill themselves.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

17. There are features of modern industrialized societies which make suicide more common.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

18. Suicide among youth is more likely these days because of the tremendous problems facing the world such as pollution and the threat of nuclear war.

| | | | | | |
|-------------------|----------|----------------|----------|----------|----------------|
| Strongly disagree | Disagree | Somewhat Agree | Somewhat | Disagree | Strongly agree |
| 1 | 2 | 3 | 4 | 5 | 6 |

Appendix Q

Attitudes toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF)

Instruction: Please choose the number of the choice that best represents your level of agreement with each statement.

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
5. I would want to get psychological help if I were worried or upset for a long period of time.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
6. I might want to have psychological counseling in the future.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.
Strongly Disagree Disagree Agree Strongly Agree
0 1 2 3

9. A person should work out his or her own problems; getting psychological counseling would be a last resort.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly Disagree | Disagree | Agree | Strongly Agree |
| 0 | 1 | 2 | 3 |

10. Personal and emotional troubles, like many things, tend to work out by themselves.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly Disagree | Disagree | Agree | Strongly Agree |
| 0 | 1 | 2 | 3 |

Appendix R

Letter to Participants

Dear Africans:

My name is Sheri Nsamenang and I am a graduate student in Clinical Psychology at East Tennessee State University (ETSU). I am originally from Cameroon, and as a fellow African, my research interests are focused on African immigrants. I am contacting you to encourage you to participate in my study. The objective of my study is to better understand the psychological health, attitudes toward mental health, and the help seeking behavior of African immigrants.

Your participation in this study will provide a better understanding of the mental health issues and concerns of African immigrants, about which very little is known. Participation in this survey is completely voluntary and confidential. It will take about 30 minutes to complete the survey. I will greatly appreciate it if all African immigrants can support my research by completing the survey on this link: <https://www.surveymonkey.com/s/AfricansUSA> (please click or copy and paste the link to the Internet browser).

[Note that this study has been approved by the Institutional Review Board (IRB) at ETSU.]
Please let me know if you have any questions.

Thank you!

Sheri Nsamenang, M.S.
Clinical Psychology Doctoral Candidate
East Tennessee State University
nsamenang@goldmail.etsu.edu

Appendix S

Letter to Stakeholders

Dear _____,

My name is Sheri Nsamenang. I am developing a research proposal for my doctoral dissertation at East Tennessee State University titled Attitudes toward Suicide, Mental Health, and Help-Seeking Behavior among African Immigrants: An Ecological Perspective. I am requesting your permission to invite the Africans of your University/Organization to participate in my study by completing an online survey. Little is known about the mental health status of Africans in the United States and the purpose of my study is to better understand the mental health issues and concerns of Africans.

I am not requesting email addresses, phone numbers, mailing addresses or any personally identifying information about the Africans in your organization. Instead, I would like you to email my letter of invitation to complete the online survey, on my behalf, to Africans in your organization. My survey does not ask for any personally identifying information, the study participant's identification will be completely anonymous.

My study has been approved by the Institutional Review Board (IRB) at ETSU. The intent of this email is to request your permission to invite members of your association to complete my survey. Attached to this email, is the letter of invitation you can send to the Africans in your organization.

If you are not the person in charge of approving this type of request I would very much appreciate if you would forward the name and contact information of the person I should communicate with. I would welcome the opportunity to discuss this with you by phone if that would be helpful.

Thank you for your time and assistance. I will greatly appreciate your assistance.

Sincerely,
Sheri Nsamenang, M.S.
Clinical Psychology Doctoral Candidate
East Tennessee State University
570-786-7184
nsamenang@goldmail.etsu.edu

Appendix T

List of Stakeholders

Organizations

Angola:

Association Angola People in U.S.

Benin:

Beninese Association of Illinois

Cameroon:

Bui Family Union

Cameroonian Community in Chicago

Cameroon Student Association

Congo:

Association of Congolese Community in Los Angeles

Congo Unity

Congolese Community of Chicago

Cape Verde:

Cape Verdean Assistance Committee

Egypt:

Egyptian American Cultural Association

Ethiopia:

Ethiopian Community Association of Chicago

The Ethiopian Community Association of Chicago

Ethiopian Community Development Council

Ghana:

Asante Kotoko Association

Ghana Association of Oregon

Ghanaian Community Association

Kenya:

United Kenyans of Chicago

Liberia

Liberian Community Association of Denver

Liberian Organization of Illinois

Morocco
Association of Moroccans in United States
Moroccan Friendship Association

Nigeria:
Anioma Cultural Union
Federal Council of Nigerians in South Florida
Nigerian Community of Chicago

Senegal:
L.A. Senegalese Association
Senegalese Support Society

Sierra Leone:
Lokomasama Family
Madingo Descendants Association
Tegloma Organizations

Uganda
Ugandan Community Of Greater Chicago
Ugandan No. American Association, Washington D.C. Chapter

Tanzania:
Tanzanian Community Association - Midwest USA, NFP

Togo:
Togolese Association of Chicago

Zimbabwe:
Zimbabwean Community in Illinois

Other:
Bridge Refugee Services, Knoxville TN

Facebook Groups

Africa's Best Baltimore MD USA
Talking Point Africa U.S.A.
Africa Inland Mission (USA)
East African Radio USA
Leadership Africa USA
Africa in USA...DC/VA/MD
Africa Independent Television USA
USAfrica

Twitter Group:
South Africans in Austin

Colleges and Universities

Alabama:
The University of Alabama
Troy University

Alaska:
University of Alaska Anchorage
Alaska Pacific University

Arizona
Arizona State University
University of Arizona

Arkansas
University of Arkansas
Arkansas State University-Main Campus

California:
University of California-Los Angeles
University of California-Berkeley
California State University-Long Beach
San Diego State University

Colorado:
University of Colorado at Boulder
Colorado State University

Connecticut:
University of Connecticut
Yale University

Delaware:
University of Delaware
Wilmington University

District of Columbia:
Georgetown University
American University

Florida:
University of Florida
University of Central Florida

Georgia:
University of Georgia
Georgia State University
Georgia Institute of Technology-Main Campus
Kennesaw State University

Hawaii:
University of Hawaii at Manoa
Hawaii Pacific University

Idaho:
Brigham Young University-Idaho
Boise State University

Illinois:
University of Illinois at Urbana-Champaign
DePaul University

Indiana:
Indiana University-Bloomington
Ball State University

Iowa:
University of Iowa
Iowa State University

Kansas:
University of Kansas
Wichita State University

Kentucky:
University of Kentucky
University of Louisville

Louisiana:
University of Louisiana at Lafayette
Southeastern Louisiana University

Maine:

University of Maine
University of New England

Maryland:

University of Maryland-College Park
Johns Hopkins University
Towson University
University of Maryland-University College

Massachusetts:

Boston University
Harvard University

Michigan:

Michigan State University
University of Michigan-Ann Arbor

Minnesota:

University of Minnesota-Twin Cities
Minnesota State University-Mankato

Mississippi:

Mississippi State University
University of Mississippi Main Campus

Missouri:

University of Missouri-Columbia
Missouri State University

Montana:

The University of Montana
Montana State University

Nebraska:

University of Nebraska-Lincoln
Metropolitan Community College Area

Nevada:

University of Nevada-Las Vegas
College of Southern Nevada

New Hampshire:

University of New Hampshire-Main
Campus
Dartmouth College

New Jersey:

Rutgers University-New Brunswick
Montclair State University

New Mexico:

University of New Mexico-Main Campus
New Mexico State University-Main Campus
New Mexico Highlands University

New York:

New York University
University at Buffalo
Stony Brook University
Columbia University in the City of New
York

North Carolina:

North Carolina State University at Raleigh
University of North Carolina at Chapel Hill

North Dakota:

North Dakota State University-Main
Campus
University of Mary

Ohio:

Ohio State University-Main Campus
University of Cincinnati-Main Campus
Ohio University-Main Campus
Kent State University Kent Campus

Oklahoma:

Oklahoma State University-Main Campus
University of Oklahoma Norman Campus

Oregon:

University of Oregon
Portland State University

Pennsylvania:

Pennsylvania State University-Main
Campus
Temple University

Rhode Island:

University of Rhode Island
Brown University

South Carolina:

University of South Carolina-Columbia
Clemson University

South Dakota:

South Dakota State University
University of South Dakota

Tennessee:

The University of Tennessee
University of Memphis
East Tennessee State University

Texas:

The University of Texas at Austin
Texas A & M University
Houston Community College
University of North Texas

Utah:

Brigham Young University
University of Utah

Vermont:

University of Vermont
Community College of Vermont

Virginia:

Virginia Polytechnic Institute and State University
Northern Virginia Community College
Virginia Commonwealth University
George Mason University

Washington:

University of Washington-Seattle Campus
Washington State University

West Virginia:

West Virginia University
Marshall University

Wisconsin:

University of Wisconsin-Madison
Marquette University

Wyoming:

University of Wyoming
Laramie County Community College

VITA

SHERI AGATHA NSAMENANG

- Education: Saint Augustine's College, Nso, Cameroon
Saint Sylvester's College, Sop, Cameroon
B.S. Psychology, New Mexico Highlands University, Las Vegas, New Mexico, 2007
M.S. Clinical Psychology, New Mexico Highlands University, Las Vegas, New Mexico, 2010
Ph.D. Psychology, Clinical Concentration, East Tennessee State University (ETSU), Johnson City, Tennessee, 2014
- Professional Experience: Research Assistant, Child and Family Research Lab, National Institute of Child Health and Development, Bethesda, Maryland, 2005
Teaching Assistant, New Mexico Highlands University Psychology Department, Las Vegas, New Mexico, 2008-2009
Practicum Student Clinician, New Mexico Behavioral Health Institute, Las Vegas, New Mexico 2008-2009
Research Assistant, ETSU SAMHSA Campus Suicide Prevention Grant Clinical Extern, Johnson City Downtown Clinic, Johnson City, Tennessee, 2011-2012
Adjunct Faculty, ETSU Psychology Department, Johnson City, Tennessee, 2012
Clinical Psychology Associate, Cherokee Health Systems, Jefferson City, Tennessee, 2012-2013
Clinical Peer Supervisor, ETSU Behavioral Health and Wellness Clinic, 2013
Clinical Psychology Resident, Denver Health Medical Center, Denver, Colorado, 2013-2014
- Publications: Nsamenang, S. A., Webb, J. R., Cukrowicz, K. C., & Hirsch, J. K. (2013). Depressive symptoms and interpersonal needs as mediators of forgiveness and suicidal behavior among rural primary care patients. *Journal of Affective Disorders*, 149, 282-290, doi:10.1016/j.jad.2013.01.042
Nsamenang, S.A., Williamson, I.T., & Sandage, S.J. (2013). Cross-cultural forgiveness processes in Cameroonian and American young citizens. In T.M.S., Tchombe, A.B., Nsamenang, H., Keller, & M. Fulop, (Eds.), *Cross-cultural psychology: An Africentric perspective* (pp. 262-277). Limbe, Cameroon: Design House.
Nsamenang, S.A. and Hirsch, J. K. (In Press). Psychological Determinants of Treatment Adherence among Primary Care

Patients, Primary Health Care Research & Development.
Hirsch, J.K., Nsamenang, S.A., Chang, E.C., & Kaslow, N.J. (In Press). Spiritual well-being and depressive symptoms in female African American suicide attempters: Mediating effects of optimism and pessimism. *Psychology of Religion and Spirituality*.

Lakey, C. E., Hirsch, J. K., Nelson, L. A., & Nsamenang, S. A. (In Press). Effects of contingent self-esteem on depressive symptoms and suicidal behavior. *Death Studies*.

Honors and Awards:

International student competitive scholarship, 2004-2007
Who is Who Among Students in American Universities & Colleges, 2007

Domanican Foundation Depth Scholarship, 2006-2007

NMHU International Student of the year, 2008

Second Place Graduate Student Poster Award at Tennessee Psychological Association conference, 2011

Second Place on Oral Presentation in Natural and Behavioral Science at Appalachian Student Research Forum, 2011

ETSU Priester-Sloan Family Scholarship, 2011

Financial assistance award from APA Science Directorate, 2012

Second Place Poster Presentation at Appalachian Student Research Forum, 2013